UNITED STATES OF AMERICA
EASTERN DISTRICT OF MISSOURI
EASTERN DIVISION

TIARA ROBINSON, et al.,)
)
Plaintiffs,)
)
vs.) No. 4:10-CV-1176 JCH
)
NEWELL WINDOW FURNISHINGS, et al.,)
)
Defendants.)

TRANSCRIPT OF DAUBERT HEARING

BEFORE THE HONORABLE JEAN C. HAMILTON
UNITED STATES DISTRICT JUDGE

Volume II-B
July 20, 2012

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I N D E X

(The following proceedings continued in open court on July 20, 2012 at 11:03 a.m.:)

MR. KRASOVEC: Thank you, Your Honor. A couple of housekeeping things before I finish up my questioning. I think I referred to two Exhibit 11s, and I just wanted to --

THE COURT: One was that and one was a photograph, I think.

MR. KRASOVEC: Correct. The blowup, the board, this board that shows the window without a window covering on it, that I've marked as Exhibit 11.

THE COURT: Okay.

MR. KRASOVEC: And then Exhibit 12 -- Exhibit 12, Your Honor, is one of the police photographs. This is one of the police photographs that I asked questions of Ms. Deppa about that shows the toy bin in the corner of the room --

THE COURT: Fine.

MR. KRASOVEC: -- to the right of the window. Okay. Thank you.

CROSS-EXAMINATION (Cont'd)

BY MR. KRASOVEC:

Q. Ms. Deppa, you also testified about your opinion with respect to when the subject blind was manufactured, correct?

A. Yes.

Q. And you believe that it was some time in the mid to late 1991 time frame?

A. I said most likely date of manufacture was mid to late 1991.

Q. And you were referring to your Attachment 3 to your report, which is a time line?

A. Yes.

Q. And, again, this is Attachment 3 to the May 15, 2012 report. On page 2 you have in bolded heading that says 1991 mid to late -- 1991, most likely date of manufacture of subject blinds since the subject room was decorated next to last. Below that is essentially sentences that you've written referencing testimony from various witnesses in this case, correct?

A. Yes, mostly Marci.

Q. You paraphrased the testimony of Marci Feldewerth, or I think she's now known as Marci Smith, correct?

A. Yes.

Q. And, again, because you weren't able to inspect the blind, you didn't see any labeling on it that would indicate when it was made?

A. The subject blind, yes, that's correct.

Q. And so the sole basis of any opinion that you're giving regarding when the subject blind was made rests upon the testimony of the individuals who were in the house in the late eighties and early nineties?

A. It wasn't the sole thing. It was also -- this is

information from a number of different sources including what was going on in the industry and what the defendants testify was happening with their design of their blind as far as the monorail system, et cetera.

Q. Okay. So you don't list that testimony in your time line here, correct?

A. I do list all that testimony in this time line.

Q. I'm sorry, I don't see it then. I see references to M.S. and a page number, which I assume is Marci Smith's deposition?

A. I talk -- 1985, Kirsch began selling mini blinds with U-shape. I refer to S.E.'s depo, Stephen Eckhardt's depo.

Q. Where is that?

A. On page 1 of the time line. I start the time line --

Q. So that's when you say, "1985, Kirsch began selling mini blind with a U-shaped monorail headrail system"?

A. Right. So we know that, for example, the blind wasn't made before 1985. So this all goes into trying to date the blind.

Q. Okay. Well, with respect to your statement here that the blind was made in mid to late 1991, the only testimony you refer to here is that of Marci Smith, who was Mr. Feldewerth's second wife, I guess. Is that fair? That's all that I see here in Attachment 3 are references to Marci Smith's testimony.

A. I came to that conclusion using all of the information that I talked about. But the 1991, this specific within the year or so is based on Marci's testimony.

Q. When you say it was -- you believe it was manufactured in mid to late 1991, that's based upon Marci Smith's testimony?

A. In conjunction with everything else that was going on as far as, it can't be any earlier because of what Kirsch says, it can't be any later a certain point because of what else was going on in the industry, for example, when they went with the two-tassel system, et cetera.

Q. Well, so you're saying that it couldn't have been made before 1985 based upon Mr. Eckhardt's deposition, correct?

A. It could not be made before 1980 -- yes.

Q. And you believe the most likely date of manufacture is 1991 based on Ms. Feldewerth's slash Smith's deposition?

A. Yes.

Q. And, again, you have not -- you did not inspect the subject blind to see whether it had one or two tassels?

A. That's correct.

Q. So is it fair to say that your opinion with regard to when this subject blind was manufactured was not based on any kind of inspection of the blind, but instead was based upon deposition testimony of various witnesses in this case, this particular subject blind?

A. And it's also based on the examination of the other blinds in the household to see that -- to see that they were similar as far as head rails and other components.
Q. Okay. Did any of those blinds indicate when they were manufactured? Was there any labeling on them to indicate that?
A. No, but they did have, for example, the cords going into single tassel.
Q. And cords going into a single tassel were part of the window blind design going back to 1985, correct?
A. Yes.
Q. 1986?
A. Yes.
Q. '87?
A. Yes.
Q. '88?
A. Yes.
Q. And '89?
A. Yes.
Q. Anything other than your inspection of the other blinds found in the house and the deposition testimony that you're relying on for this opinion about when this blind was manufactured?
A. Well, the other thing in just trying to date it was also what was going on in the industry. Such as, again, when

they went with a two-tassel system.

Q. So it's fair to say you looked at the specific information, you know, or you've looked at the deposition testimony and looking at the other blinds in the house, and what you're telling me is that -- if they were made in 1991, that would be consistent with what was going on elsewhere in the industry; is that fair?

A. Yes.

Q. In other words, none of your studying what was going on in the industry doesn't tell you exactly when this particular blind was made?

A. It puts parameters on it, but not -- right, but not definitively in 1991 versus 1989.

Q. The only thing that we know about this particular blind are what witnesses have testified about in terms of when things were done in this home?

A. Correct.

Q. You have some other -- some charts attached to your report. There's Attachment 6-A, 6-B, and 6-C, you testified about, a little about yesterday?

A. Yes.

Q. With respect to Attachment 6-A --

MR. KRASOVEC: Give the Court a moment to catch up.

THE COURT: We have that.

Q. Attachment 6-A is entitled "Window Coverings Injury

Data: Newell-Related." It says, "(Includes Del-Mar, Kirsch, Levolor, Louverdrape, Joanna, Custom Size Now)." Is Attachment 6 something that you compiled?

A. Yes.

Q. And what are Del-Mar, Kirsch, Levolor, Louverdrape, Joanna, and Custom Size Now? What are those?

A. They are all companies from what I understood are Newell companies.

Q. When you say they are "Newell companies," what do you mean by that?

A. That Newell acquired them at different times, and that they now are all under that umbrella.

Q. And do you have any knowledge as to when Newell acquired any of those specific entities you listed?

A. A few of them I know. I don't know all of them.

Q. Okay. Do you know whether Kirsch in 1991 was a Newell entity?

A. I just don't recall sitting here. I have that information for the rough draft in the report. Oh, whether Kirsch in 1991 was a Newell company, no. Sorry.

Q. And do you know whether there was any relationship other than a competitive one between Kirsch and Del-Mar in 1991 or prior to that time?

A. I don't know.

Q. As far as you know, Del-Mar and Kirsch were separate

corporations at that time?
A. Yes.
Q. And likely competitors with one another at that time, correct?
A. Yes.
Q. And this chart, 6-A, this includes any kind of strangulation incident, whether it involved an inner cord or a pull cord or a vertical shade or a Roman shade or horizontal mini blind, correct?
A. Correct.
Q. And if we go to 6-B, 6-B is the inner support cord. This is another table that compiles information on those types of incidents, correct? I'm now on 6-B.
A. I didn't understand what your reference was to those type of incidents.
Q. I'm just asking a foundational question. Did you prepare Attachment 6-B, which is, "Window Coverings - CPSC Injury Data - Inner/Support Cords"?
A. Yes.
Q. And this includes all the incident data that you could find compiled -- strike that. These -- this table includes all the CPSC reports that you could find where you believe the inner cord was identified as the injury mechanism?
A. Yes.
Q. And this table -- this attachment, this table was

prepared with respect to -- strike that. This table includes vertical -- strike that. This table includes Roman shades and roll-ups and horizontal blinds, correct?

A. Correct.

Q. It includes all kinds of blinds, whether or not they have -- window coverings, whether or not they've got a cord that runs down through the slats?

A. I didn't understand that question.

Q. Well, for instance, you've got Roman shades on here, correct?

A. They were any kind of support cord, whether it's through the slats or in the back. In other words, anything not the pull cord on the outside.

Q. And I think we were through this yesterday, on a Roman shade, the support cord runs down the back of the shade?

A. Yes.

Q. And is fixed at certain points on the shade?

A. Yes.

Q. As opposed to running down through the slats like we see on a mini blind?

A. Yes.

Q. And there are a couple of incidents on here I just wanted to ask you about. I think we talked about a couple of these. The first one, the first one you list here is an October 4 or October 5, 1986 incident, I believe involving a

woven wood or Roman type shade, correct?
A. Yes. It's the one subject to the Del-Mar label or whatnot, the case that resulted in that.
MR. KRASOVEC: It's rather difficult to read on the ELMO. May I approach the witness?
THE COURT: You may.
Q. I'm going to hand you what I've marked as Exhibit 10, Ms. Deppa. Is that the CPSC report for the incident that you referred to in the first entry of your table?
A. Yes.
Q. And that indicates a date of accident, it looks like of October 10th of 1986, correct?
A. No. You said October 10th?
Q. I'm sorry, I said October 5th, 1986.
A. Oh, you did. Yes. I think there were a couple different -- in what I looked at, some things listed it as October 4th and others October 5th.
Q. On this report there's a date next to the date of the accident. What is that date?
A. Date investigation initiated.
MR. KRASOVEC: Sorry. For the Court's benefit, I'm trying to put it on. It's kind of hard to read.
THE COURT: That's okay.
Q. What is that date on this particular report?
A. 8/16/90.

Q. So that's August 16th of 1990?
A. Yes.
Q. So that's when the CPSC commenced its investigation of this incident?
A. Yes.
Q. So this report, when would it have actually been prepared?
A. In 1990.
Q. And is there a date that we can look at that shows when this report was finalized?
A. Well, there is a "reviewed by" date that probably is pretty close, which --
Q. That's in Box No. 22?
A. Yes.
Q. And the "reviewed by" date indicates September 26th, 1990?
A. Yes.
Q. And it was reviewed by 8130, correct?
A. Yes.
Q. Does that correspond to somebody in the CPSC?
A. I assume so, yes.
Q. You don't know who that person is?
A. No.
Q. And so this report would not have been released to the public until obviously after it was reviewed by somebody and

prepared, correct?
A. Correct.
Q. And about how long does it take for a report like this to be released to the public after it's been completed?
A. I don't know for sure.
Q. There was another incident report that you -- I think you referred to yesterday, it was Plaintiffs' Exhibit 14. And I've just got my copy of it.
MR. KRASOVEC: May I approach again, Your Honor?
THE COURT: You may.
MR. KRASOVEC: I'll hand it.
Q. That was Plaintiffs' Exhibit 14, which I think you were asked some questions about yesterday. That corresponds to the third item on your table, that 6-B?
A. I don't remember we talked about this yesterday. I don't remember that.
Q. I marked it as Exhibit 14, so I marked on it. But if we didn't then --
A. I don't think we did, because I know where you're going with this. And specifically in my report when I talk about the two cases that were prior to 1991, I didn't include this case specifically because the case number was a '95 case, so I know it was reported much later. So it's not one -- that was not included in my report as a prior specifically for that reason.

Q. Okay. Then maybe I misspoke.
A. But I don't remember this coming up yesterday.
Q. I'll mark it as my own exhibit, how about that?
A. Okay.
Q. So this is -- we'll call this, I believe, Exhibit 13.
A. I think -- didn't you tell me you marked it Exhibit 14?
Q. I thought I had marked it because Mr. Onder used it with you, but you're pointing out I'm mistaken, and I'll accept that. So I'm marking it as my own Exhibit 13. Got it?
A. Got it.
Q. And just tell us what the date of the incident of this report, the incident that's discussed in this report, what's the date of that incident?
A. 8/25/91.
Q. And when was that investigation initiated?
A. 3/14/95.
Q. And when would that report have been finalized?
A. Well, reviewed by 3/22/95.
Q. So some time after that point it would be finalized?
A. I don't know for sure the procedure here, if that's the finalized date or not.
Q. The report certainly would not have been finalized before it had been reviewed by this individual, fair?
A. Right. But that review date might be the finalized

date, so --

Q. Well, you've got this one other entry under 6-B, a second entry involving a roll-up shade?

A. Yes.

Q. And did you have an IDI report for that one?

A. Yes.

Q. And there are several numbers of reports here. Was there a single IDI or were there multiple ones? I'm looking at case number --

A. I mean, I don't know as we sit here till I go back and see what my files are.

Q. And this was a roll-up shade?

A. Yes.

Q. And a roll-up shade is one in which the support cords run along the outside of the window covering, and as the pull cord is pulled, that pulls up those support cords; is that correct?

A. It does. It runs along the back.

Q. And does it go under -- I'm sorry, go ahead.

A. Well, I just was clarifying. It goes along the back. I believe it then goes -- the loop goes at the bottom as you're rolling it up as it's rolling.

Q. So the cord actually rolls up inside the roller as you're elevating the blind?

A. I don't recall offhand. Sometimes the industry is not

100 percent consistent on their terms, and I would have to actually look at the picture in the IDI for this particular one.

Q. This particular incident did not involve a horizontal slanted mini blind, correct?

A. That's correct.

Q. And then Attachment 6-C to your report. This is a listing of all window covering incidents based upon CPSC injury data?

A. Yes.

Q. And this includes, I see traverse rods, roll-up shades, horizontal blinds, Roman shades, and vertical blinds, correct? This table includes all those different kinds of products?

A. Maybe others, I don't know.

Q. And maybe even others. But certainly at least those?

A. Yes.

Q. Several products in addition to and different from horizontal slatted mini blinds?

A. Yes.

Q. And this table includes, you've divided it out by whether it's an outer cord mechanism of injury or an inner cord mechanism of injury, correct?

A. Yes.

Q. Where you could tell that, correct?

A. When it could be told, yes.

MR. KRASOVEC: Your Honor, that's all I have.

THE COURT: Thank you. Any redirect, Mr. Onder?

REDIRECT EXAMINATION

BY MR. ONDER:

Q. We were just talking about all that injury data, and the final table includes all both inner cord and pull cord deaths; is that correct?

A. Yes.

Q. Did all of those pull cord deaths involve cords greater -- pull cords greater than 7-1/4 to 10 inches in length, in other words, more than 7 and 10 inches of exposed cords?

A. Yes.

Q. And that's the same defect we're contending in this case, had the cords been 7 to 10 inches in length, an inner cord wouldn't have been pulled out, correct?

A. It wouldn't have been pulled out far enough to get caught around her neck, yes.

Q. So all of those deaths in that final table involve the same thing you're saying is defective about the blind in question, correct?

A. Yes.

Q. Just so we're clear on here, that white thing hanging down in this photo --

THE COURT: Do you want to indicate what you're referring to for the record?

MR. ONDER: Yes.

Q. Is that a slat hanging down? As Mr. Krasovec was talking, he kind of confused me a little bit in terms of it's hard to see on this exhibit. There is a very faint line and then there's a darker white piece. The white piece is what?

A. Well, I can't quite see in that picture, but I know the pictures from studying them before, one part of it is the slat that's hanging down, and the other part is an inner cord that's hanging down.

Q. So the part to the left is the slat, but the inner cord is most of the way to the right, correct?

A. Yes, that's correct.

Q. So the cord is actually closer to the toy bin, correct?

A. Yes.

Q. Do you know the distance between the toy bin and the window?

A. From the corner of the toy bin to the window is 3-1/8 inches.

MR. KRASOVEC: Your Honor, I believe this comes from this report that we received on Wednesday night.

THE COURT: Yeah. We're not talking about any supplemental report.

BY MR. ONDER:

Q. You attempted to create an approximation in your initial report; is that correct?
A. I could see that it was almost directly under and just slightly to the right. I didn't know the exact measurement from the original report.
Q. Until you confirmed it after the fact?
A. Yes.
Q. In terms of all these percentiles, are any two children exactly alike in terms of the length of their arms, the length of their legs, the length of their torso, the length of their head?
A. No.
Q. And when you use these -- this anthropometric data, we talk about the 5th percentile versus the 50th percentile, correct?
A. Of a specific dimension, yes.
Q. Okay. And you indicate when you're talking about the full reach, the 5th percentile data isn't available, it's not publicly available, correct?
A. The only data that I could find is the 50th percentile for the overhead reach, standing on tip toes with fingers outstretched.
Q. And the concept that if someone is in the 5th percentile, the idea of even if someone is in the 5th percentile in height, they could still be in the 50th or 60th

or even 70th percentile in arm length or reach, correct?
A. To some extent that's correct, because if you've got a short torso and long legs then -- and if arms are correlated to legs, then you're going to have a longer arm. So just because you're 5th percentile in height doesn't mean you're 5th percentile in overhead reach. You could be something more than that. I'm not sure you could range all the way up to 95th, but you would be something more -- you would have a tendency to be something more.
Q. And in the concept of using 50th percentile, since people tend toward the average, is that a generally accepted concept in the field of human factors?
A. Yes.
Q. Is it also generally accepted in the field and the study and the examination of anthropometric data?
A. Yes.
Q. When you prepared your initial report, did you have medical literature or medical methodology in mind that you were applying in tending toward the 50th percentile?
A. Well, not medical literature, but --
Q. I'm sorry, anthropometric or human factors literature.
A. Right. I've done this before many times and I know that's the proper way to do it. I have sources to back up what I've done.
Q. Can you identify the source or the study or the human

factors report or literature upon which you relied in using that technique?

A. Well, I've known of data throughout the years. And one example is information that's was in a book called "Ergonomics for Children." And they talk about how you need to use anthropometric data with caution. And they give examples of principles and what you're not supposed to do and the reasons why. And some of that information is just what we're talking about.

For example, it says, since body dimensions and body part dimensions are not consistently related, do not add a 95th percentile shoulder to wrist length to a 95th percentile hand length to calculate the 95th percentile arm length, because that won't give you the correct 95th percentile because people's body dimensions differ in relationship to each other.

Similarly, this says that the percentiles describe a size on one dimension only. For example, they do not -- it says, do not -- the 95th percent person does not exist in reality, as no person is 95th percentile in all dimensions. And the reason why it says that is two people of 95th percentile stature may be of the same height for different reasons. One may have long legs and a short torso while the other may have short legs and a long torso.

Q. And I believe you explained that same concept to us

yesterday out of your primary report, which is that's a mistake that some people, inexperienced, tend to make -- or you, in fact, made that mistake when you were right out of school and didn't know better, correct, adding 95 to 95 to 95?

A. Right. And that like a two-year-old was as tall as I was or something like that, yeah.

Q. So the concept of even on a 5th percentile person, using a 50th percentile number especially when data is not available, that's generally accepted within the field of human factors and anthropometric study; is that correct?

A. Yes.

Q. And is that the concept you applied in preparing your report?

A. Yes.

Q. And as we attempt to approximate numbers, you're looking for the best estimate of height and reach and so forth, correct?

A. Well --

Q. To attempt to create a best estimate?

A. Yeah, anthropometric data gives us estimates of what people's different dimensions are. They are not exact. You can't say, here's one person and I'm going to look it up and here's the exact number. But it gives us information on the estimate of the person so that we can then design products or

analyze, do reconstruction.

Q. And one inch, the one inch difference between the 50th percent and the 5th percentile, does that make any difference or change your opinion in any way?

A. No.

Q. And when we talk about a surrogate study, Mr. Krasovec started talking about a surrogate study and the usefulness of surrogate studies. Is it even possible -- or is it possible that or is there any way for us to confirm that the surrogate used was identical to Catara Robinson on the date this happened?

A. No, you can't confirm. But, I mean, in this particular case even -- I mean, they used a different sex. And we don't even know the age of the child, all we know is I think that it was the same height. So you don't know that that's any more accurate than the anthropometry. But even if you had used a female of the exact same age and it started out at the same height doesn't mean that that person's reach would have been the same as Catara's. You don't have any exact unless you actually measured Catara's reach on the day of the accident.

Q. You tried to create a best estimate, correct?

A. Correct.

Q. And in terms of the surrogate study, it's very possible or likely that the surrogate could be off a half inch, inch,

two inches, correct?

A. Yes.

Q. And the mere fact that it might be off an inch or a half inch or two inches doesn't mean the surrogate study has no value or worth whatsoever, correct? It just gives you additional data to plug into the equation?

A. Yes.

Q. Again, these are all tools used within the field of human factors, correct?

A. Yes.

Q. Parental perception of height, the height of a child. Based upon your experience in the field of human factors, what's more accurate, the anthropometric data or parental perception of what a child can or cannot reach?

A. I would say it's the anthropometric data because parents' perception are a lot of times incorrect. It's what they think a child can or cannot reach. But we have injury data all over the place that shows that kids end up reaching things the parents had no idea the child could reach.

And plus, children change. So they may be developing something, and what a child could do one day, the child either grows or develops a new skill and the parent isn't aware that that has happened. So parents are often incorrect. They do the best they can obviously, but they don't -- you can't always -- you can't always keep up with a

child as far as the new skill that they developed overnight or the fact that they've grown.

Q. And, finally, whether Catara or her little brother, whether they played with the blinds, got into the blinds, messing with the cords or whether it was a loop, what was the reasonable thing to do as a parent if your child was involved or interacting with the blinds?

A. Well, in this particular case what they did was they moved the bed and they put the cord up out of reach, and they thought it was out of the reach of the child.

Q. So regardless of how the child -- the children may have interacted with the blind in the past, the parents moved the bed to the opposite side of the room, correct?

A. Yes.

Q. So they could no longer be used to access blind cords, correct?

A. They thought so, yes. And put the cord up out of reach.

MR. ONDER: Thank you. That's all.

THE COURT: Anything further?

MR. KRASOVEC: Nothing, Your Honor.

THE COURT: Okay. Ma'am, you may step down. Do you want to call another witness?

MR. CORRIGAN: Your Honor, may I help collect the exhibits?

MR. KRASOVEC: I marked the very last exhibit that I had thought the plaintiffs had marked as 14 --

THE COURT: Right.

MR. KRASOVEC: -- I'm marking Defendant's Exhibit 13.

THE COURT: Thirteen, right.

MR. KRASOVEC: Thank you.

THE COURT: Do you want to step forward, ma'am, and be sworn. You may inquire.

CHRISTINE TALBOT WOOD, Ph.D,

Having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MS. PODULKA:

Q. Good morning.

A. Good morning.

Q. Would you please state your full name for the record.

A. My name is Christine Talbot Wood.

Q. Dr. Wood, what are the areas of expertise that you're offering opinions on in this matter?

THE COURT: Do you want to pull the microphone a little closer.

MS. PODULKA: Is this better for you? Okay.

Q. Again, just to repeat. Dr. Wood, could you tell us what area of expertise you are applying in offering opinions

on in this case?
A. The general area of expertise that I bring involves the field of human factors.
Q. Can you describe for us what the field and study of human factors is generally?
A. It involves the scientific study of the capabilities and limitations of people as they use products, machines, or systems in their environments. And when it's specifically applied to accidents, then it's looking at this -- again, the abilities and limitations of people as they interact with products, machines, and systems in their environments, but particularly focusing on unsafe behaviors in terms of those interactions.
Q. What is your educational background?
A. I have a bachelor's degree from Stanford University that I got in 1971. I graduated with honors in distinction. Continued on at Stanford to get a Ph.D in the area of experimental psychology.
Q. What was the field of your bachelor's?
A. It was psychology, just very broadly as an undergraduate.
Q. And you received your Ph.D from Stanford University?
A. That's correct.
Q. What year did you receive your Ph.D?
A. That was 1974.

Q. Did you have any special area of concentration in your doctoral program?

A. I did. The field of experimental psychology largely focuses on human information processing and how people take in information, either through perception or text, and how that information is stored and retrieved, those aspects.

Q. What types of course work did you take in completing your Ph.D?

A. Much of the course work that I took in addition to statistics and experimental design related to child development, and language acquisition, reading, learning to read, and also child development in terms of milestones in physical development, gross motor, fine motor, and cognitive.

Q. How long have you worked in the field of human factors?

A. I have been involved in this field since 1988.

Q. And can you describe for us your professional experience in this field?

A. Yes. Generally the categories of things that I get involved with include doing risk analysis, looking at particular products and what the risks or accident patterns are associated with those. That's used for in my development of safety information. It can be used in my development of looking at different kinds of changes to products to see if those changes might impact those unsafe behaviors. I also do work related to concerns that might arise from regulatory

agencies, and do an independent evaluation and present those, for example, to the Consumer Product Safety Commission.

Q. Who is your current employer?

A. My current employer is a company called Exponent.

Q. What is your position there?

A. I am -- I have a title principle scientist, but I'm also the director of the human factors practice at Exponent.

Q. And your work that you do at Exponent, does that involve work that you do both in the litigation and non-litigation context?

A. It does.

Q. What professional affiliations do you have?

A. I belong to the Human Factors and Ergonomics Society, the American Education Research Association, and the Society for Risk Analysis.

Q. Have you served on any editorial boards for any journals?

A. I have, yes.

Q. And what is that?

A. The Journal of Children's Health.

Q. Have you done research focused on child behavior and how children interact with products?

A. Yes, I have.

Q. Could you tell us a little about the research you have done?

A. The research I have done has been done on behalf of a wide variety of different product manufacturers. And it can involve looking at accident data and analyzing that. It can involve actually testing of subjects with respect to uses of devices to get an understanding of the interaction between people and the products.

Q. And has the research that you've conducted been published in peer reviewed journals?

A. It has, yes.

Q. Have you advised manufacturers on ways that children could interact with their products?

A. Yes, I have.

Q. And have you advised manufacturers on ways to help make their products safer for children as far as their interaction with the product?

A. I have, yes.

Q. What manufacturers have you consulted with?

A. I have provided consultation to Fisher Price, General Motors, Bic, which among other things manufacturers lighters. I have also consulted with a company called Levolor, and then Newell Window Furnishings.

Q. I'd like to talk to you a little bit about the consulting work you did for Levolor and then Newell Window Furnishings. What type of company is Levolor?

A. Levolor at the time I worked with them was actually a

manufacturer of window coverings.

Q. And Newell Window Furnishings?

A. Newell Window Furnishings is a manufacturer of window coverings as well.

Q. Okay. Was the analysis and advice you provided to Levolor and then Newell Window Furnishings related to window blind cords?

A. It was, yes.

Q. And when did you do this consultation for Levolor?

A. That work was done in 1993, and then I did some additional work for Newell in 1994.

Q. Can you describe the work that you did for Levolor?

A. Yes, it involved doing analysis of what are generally referred to as in-depth investigations that are conducted of particular accidents. And generally these are part of a publicly available database that is maintained by the Consumer Product Safety Commission. And they create these incident reports.

The other kinds of aspects of that was -- involved in my consultation included not just the analysis of those accident reports, but then looking at some proposed cord management systems for pull cords, and doing some testing of those working with engineers at Exponent. At that time our company was called Failure Analysis Associates.

And I also did a comparative risk analysis where I

quantified the risk of strangulation associated with window covering cords and compared that to the fatal risk for cribs.

Q. And you mentioned that you worked with a group of engineers as well during this project?

A. Yes.

Q. Can you tell us, was your analysis from a human factors perspective?

A. Yes, the -- my staff and I coded the data looking for the human factors with respect to these kinds of incidents. And then also reviewed the performance of these different cord management possibilities, these different kinds of devices from the human factors perspective.

Q. So you analyzed what I believe you said was the pull cord on a window blind; is that correct?

A. The hazards associated with pull cords, yes.

Q. And were you analyzing how a child might interact with a pull cord?

A. Yes.

Q. During the work that you did in 1993 and 1994, did you also analyze the formation of an inner blind cord loop on the window blind?

A. In the process -- well, if that hazard had been present in the data and identified in the data, potentially it might have been analyzed. But in the data set that I reviewed that covered data from I believe 1988 through 1993, there was no

incident present in that data set that indicated that the inner cord was involved in any of those events.

Q. So at the time of your analysis in 1993 and your review of the literature and the IDI reports, you were not aware of the formation of any cord loop?

A. That's correct.

Q. We talked about the methodology that you used a little bit reviewing the IDI reports. Could you go through that in a little more detail what you and the engineers did for Levolor to analyze both the interaction of children and the design of the safety devices for their product?

A. The analysis of the in-depth investigations, that involves reviewing each report and coding it, developing variables that are identified within the documents. For example, the age of the child involved. Is there any information about that child's height or development? Is there any information about how -- what the -- what kind of a window covering it was? What type of -- what was the function of the cord that posed the hazard?

Those kinds of details we would try and extract from each record. And they get coded by two different people separately, and then the information is compared to assure that as much as possible that the coding is correct.

Q. And did you include a summary of that review of the IDI reports in your report in this matter?

A. I included the list of the IDIs, and I included two of the variables. One was what kind of window covering that was involved, and then what was the type of cord that was reported as being the source of involvement.

Q. The methodology that you've discussed that you performed for the analysis for Levolor and Newell Window Furnishings, is that a methodology that has been generally accepted among your peers in the human factors field?

A. Yes, it is.

Q. I'd like to talk to you about what you did in this case, the Robinson case. What were you asked to do?

A. I was asked to again perform a review and analysis with respect to human factors. And it included examination of how people interact with window cords such as the one specifically in this case, and then the kinds of interactions that would be needed for an inner cord to be created to form a loop, and then for a child to then become injured in it. And that was part of the analysis that I did.

And then it included also review of a great deal of documentation to understand what was known when, including bringing out the 1993 data set or the data set that I analyzed back in 1993. I also looked at the -- analyzed the specific behaviors of the Robinsons related to this event.

Q. And in your report on page 13 you've offered seven opinions in this case.

MS. PODULKA: And for the Court's reference, her report is attached as Exhibit A to Newell's response to plaintiffs' motion.

Q. For our purposes, however, today, at this *Daubert* hearing, I would just like to focus on just one of your opinions that is at issue, and that is the opinion that the horizontal blind alleged to have been involved in this incident was not unreasonably dangerous or defective based on the knowledge of window covering hazards known at its time of manufacture. What type of analysis did you conduct to formulate this opinion?

A. The kind of analysis was very similar to what I did with respect to the work in 1993. And that was to look at available data at different time periods, including getting out the binders that had been in storage for many years and reviewing that data again.

But it also involved looking at a wide variety of documents including materials that were available through standards, through government publications, through peer review published literature, memos, letters, anything that was part of -- available publicly in terms of information that might have been available.

Q. Is the methodology you conducted in this case the same methodology that you did back in 1993 when you assessed the pull cord hazard for Levolor and then Newell Window

Furnishings?

A. It included the same kind of methodology as 1993, and it went beyond that too.

Q. Can you describe, again, how it went beyond that?

A. Well, it went beyond that because there were more time periods to be covered here. And so that involved reviewing a wider variety of documents and reports that didn't exist then, and coming up to really the time of when this incident occurred and what the kind of safety information was that was out there and available, not just from the manufacturers of window coverings, but also from a whole variety of other sources.

Q. What did you find?

A. Well, with respect to this opinion, and specifically with respect to the time of manufacture of this window cord or window covering, the hazard posed by a loop formed from the inner cords was not something that had been seen in the accident data. And there wasn't at that time any reason to particularly warn about it or make a change in design.

So -- and I understand there's some debate about the date of manufacture of this particular incident blind. In my review based on information that's been testified to, it's approximately 1989. I know the plaintiffs are indicating that perhaps it was 1991. Regardless of which date is correct, based on the work that I did in 1993, which was

contemporaneously -- contemporaneous practically with the time around when this window cord was manufactured or window covering was manufactured, this was not -- the inner cord was not something that was identified.

Q. And when you reached this opinion that we just discussed, do you hold that opinion to a reasonable degree of scientific certainty in the field of human factors?

A. I do.

Q. Dr. Wood, are you qualified to render opinions about the designs of products from a human factors perspective?

A. I believe that's ultimately the opinion or the decision of a judge, but certainly I feel I have expertise to provide in the area of human factors related to design, and it's an area that I regularly consult in.

Q. And what is the background in the education experience that you have that allows you to provide opinions on the design of products from the human factors perspective?

A. It relates to my education in understanding what the capabilities and limitations are for people. It relates to my experience in doing this kind of work. For example, for General Motors I had ended up testing 400 children, having them -- some of them get into trunks of automobiles, and trying out different kinds of devices to see which ones they would most likely use without any training if they were trapped inside of a trunk.

And it's that kind of experience and testing. And prior to that we reviewed the kinds of accident patterns and the human factors involved in these trunk-related entrapments to be able to better understand who they were happening to, how many children were involved, and then what kinds of devices to try out with that age child.

Q. And you analyzed the precise ways that a child interacts with a product to make conclusions or recommendations based on safety?

A. Yes.

MS. PODULKA: That's all. Thank you.

THE COURT: You may cross-examine.

CROSS-EXAMINATION

BY MR. KRUSE:

Q. Dr. Wood, how are you? I promise I'm going to be fairly short, so I think you're going to get off the hook more than anybody has so far.

Dr. Wood, you testified earlier in response to Ms. Podulka's questions that you consider yourself an expert in the field of human factors, correct?

A. I believe I have expertise in that area, yes.

Q. Fair enough. Your educational background, you said you have a degree in psychology?

A. Yes.

Q. You have a Ph.D in experimental psychology?

A. Correct.
Q. You do not have a degree in engineering?
A. That's correct.
Q. You don't consider yourself an engineer?
A. I am not an engineer.
Q. Nevertheless, you do agree that human factors is a multi-disciplinary field, and there's some overlap with the field of engineering, correct?
A. There is.
Q. And as a human factors expert, you have some qualification based on your practical experience and your practice in the field of human factors to render opinions on design, correct?
A. I do, and I have.
Q. And that goes for people throughout your profession. Other human factors professionals don't necessarily have to have an engineering degree to render human factors opinions on design, correct?
A. That would be correct, yes.
Q. Doctor, you testified about some work that you had done previously for Levolor and Newell. You know your CV better than I do. Is this work identified on your CV anywhere?
A. It is not.
Q. It is not. Why is it not identified on your CV?
A. The reports themselves were reports that were prepared

for these specific clients, and they are generally covered by confidentiality agreements. The other aspect of a CV is it's very difficult to cover now 23 years of work in equal detail. So I talk about kind of categories of things that I've done.

Q. Did you review and revise your CV before producing it in this case?

A. No.

Q. You did not. In what context did Levolor hire you to perform this study for them?

A. Well, at that time Levolor was based in California in a town called Sunnyvale, which was maybe 15 miles from my office. And the context related to doing some testing of possible devices to look at the control and management of pull cords. And they involved kind of two different kinds of plastic devices where one you would manually roll up the cord, and another one was one where it would automatically retract the cord. Then there were some break away tassels that were being considered at the time as well.

Q. You produced a report in conjunction with your study there, correct?

A. I produced three different reports, each on a slightly different topic. And those reports don't cover really all the work that was done, but focused on the particular issues that they would like to have a report for.

Q. It's my understanding that those reports, or at least

one of them was published to other members of the window covering industry?

A. I'm aware of at least two that were shared with the window covering industry, and then I believe they were shared with the Consumer Product Safety Commission as well.

Q. Dr. Wood, you said when -- I'm going to step over here. You said in 1993 when you conducted a study for Levolor, you were looking at the dangers posed by pull cords, correct?

A. Well, what we started with was a set of accident data that we analyzed. The results of that analysis indicated involvement of pull cords. And from there that was consistent with the direction that Levolor wanted to go in terms of cord management that focused on the pull cords.

Q. And by "pull cords," you're talking about these cords I'm holding in my hand?

A. I am, yes.

Q. And you would agree that these pull cords -- you understand how this blind is designed, correct, in basic concept?

A. In basic concept, yes.

Q. You would agree the pull cord is under the headrail of the blind and comes down through the slats, correct?

A. That's my understanding.

Q. And you understand these to be known as inner cords or lift cords, correct?

A. Yes. I generally refer to them as the inner cord.
Q. Inner cords. And one of the dangers you were looking at in 1993 was the danger posed by, we'll say one of them would be a loop on a pull cord like this. The pull cord formed a loop, somehow it would be tied together or formed in a single tassel?
A. I agree. That was one of the patterns that was shown in the instant data.
Q. You would agree that a pattern shown in the instant data would be loops caused dangers, correct?
A. Yes, loops. But in addition to that, even when it doesn't form a loop, it's possible to get the cord wrapped around.
Q. And when you did your 1993 study, did you actually look at -- did you actually look and do any type of analysis of an actual physical blind?
A. We did, yes.
Q. And you would agree, when you looked at this blind, did you look at inner cords at all?
A. There was no reason to be looking at the inner cords. We looked at the -- we looked at some like having cords that would break away if some pressure was added. And that was something that was not going to be feasible to do without having curtains or window coverings that would be falling apart all of the time.

Q. You would agree -- is there a reason why you would agree that an inner cord can be formed by simply pulling out on the inner cord in the slats, correct?
A. Well, I don't know about "simply."
Q. It can be?
A. It can be, yes. There are a number of steps that you have to go through to do that.
Q. And if the inner cord loop, or, I'm sorry, the cord running through the slats is part of the same cord as the pull cord, can you tell me why you did not think that this cord would form a danger if it's in this fashion, it forms a danger as you pull the blinds out, then you would agree that the line running through the inner cord is now pulled out of this pull cord, correct?
A. Yes, it does.
Q. It forms a danger in this fashion. But if we simply lower the blind, a loop that can be formed with the same cord doesn't form a danger?
A. And why is it that that wasn't identified?
Q. Why was that not considered?
A. Not considered. Well, we looked at the accident patterns that were occurring. We looked at the available data and the human factors associated with those kinds of accidents. There was no indication that the inner cord and the interaction with the inner cord in the manner where you

extract it to form a loop and a child getting caught in that loop, there was no evidence that that was occurring.

Q. You would agree that a loop being formed does pose a danger, in and of itself, correct?

A. It will depend on the size of the loop.

Q. If the loop is big enough to fit a head?

A. Yes.

Q. That forms a danger?

A. That will.

Q. And the industry has since -- since following your 1993 study, so a few years, I think in 2000 took efforts to remedy this danger, correct?

A. Yes, it was late 1999, I believe around 1999 that the -- an understanding of the inner cord as a hazard was really recognized.

Q. If your 1993 study identified the formation of this inner cord loop, this is something that you would have expected a manufacturer to address given your background in human factors, correct?

A. Sometimes design changes are introduced incrementally, so I don't have any expectation one way or another what would have happened back then with respect to that.

Q. Let me ask you a different way. Had you identified this hazard, this is something you would have pointed out in conjunction with your study, correct?

A. Yes.
Q. As a human factors expert dealing with issues of safety, would you consider it irresponsible, that it would have been irresponsible of the manufacturer to not address that hazard had it been pointed out in conjunction with your 1993 study?
A. Well, as I say, there wasn't any pattern of it then. As a better understanding of that pattern emerges, then if there's an idea of how to reduce the risk posed by that kind of a pattern, then it could be addressed.
Q. My question is not could it be addressed, my question is should it be addressed?
A. That's going to be a weighing of design considerations. And one of the things that we looked at in terms of the cord management systems that were being considered was in some instances whether that management system would introduce new hazards that hadn't been present before. And so all of those kinds of things would have to be taken into consideration. So it's a broad question in the abstract without any specific yes or no.
Q. To the extent this hazard could be remedied without presenting new hazards, you would agree that a manufacturer should try to remedy it?
A. Well, I can't speak to that because I don't know what the design might be, what the cost might be, whether these

would still be affordable kinds of designs, whether the kinds of fixes that you're thinking about are really feasible. It's still too broad of a question for me to address.

Q. Are you familiar with the cord stop design?

A. Yes.

Q. Can you describe what a cord stop design is?

A. If we're thinking of the same kind of device.

Q. That's what I'm trying to find out.

A. If you were to raise the cord and then lower it, you can't -- the cord stop will stop the blind from coming all the way down.

Q. Dr. Wood, I'm going to talk about your opinion, Opinion 3 in particular, or at least that's how I'm labeling it. That's the one referenced -- Ms. Podulka referenced for you. I believe it's page 13 of your report. It reads: "The horizontal blind alleged to have been involved in this incident was not unreasonably dangerous or defective based on knowledge of window covering hazards known at its time of manufacture." You would agree that's your opinion, correct?

A. Yes.

Q. And I'm going to parse this opinion out. Your opinion is based solely on or this opinion rests solely upon when the blind was -- when you understand the blind to have been manufactured, and what you perceive the industry and the CPSC I guess to have known at the time of that manufacture,

correct?
A. Well, I would say it also includes my firsthand analysis of data that were available then, back in 1993.
Q. I understand that. We're talking about your analysis is crucial on time frames though, correct? It's not -- your opinion is not that this blind, had this blind been manufactured today, you would agree that it would be unreasonably dangerous or defective, correct?
A. I have defined my opinion with respect to the time frame in this, yes.
Q. You would agree that had this blind been manufactured in 2012, the same way the blind in question, you would consider it unreasonably dangerous and defective, correct?
A. Well, I have not been asked to develop an opinion with respect to that, so I'm not offering one.
Q. Well, I'm asking you that now.
A. Well, it's not something that I've looked at.
Q. Okay. Your opinion, though, is limited in time frame?
A. It is, absolutely.
Q. So your opinion necessarily rests upon when you perceived the blind in question to have been manufactured, correct?
A. Yes, it rests related to that time frame. Now, I understand the difference in possible opinions about when it was manufactured.

Q. Your opinion on date of manufacture is based upon the testimony of others in this case, correct?
A. It is. Some of that by people in the manufacturing end.
Q. You don't have any training particular to window blind identification, correct?
A. That's correct. I mean, I'm really not offering an opinion about it, I'm phrasing it, I believe in the report, that this is my understanding based on the evidence that I reviewed.
Q. So you're not offering an opinion on date of manufacture, your opinion is -- your opinion is the blind was not unreasonably dangerous and defective as of a certain point in time?
A. That's correct.
Q. And your opinion that the blind was not unreasonably dangerous or defective as of this certain point in time is based upon your review of a number of, a wide variety of documents that you identified earlier, correct?
A. Yes.
Q. And additionally the documents you reviewed in conjunction with your 1993 study, correct?
A. That's correct.
Q. And that consisted of a review of various IDIs produced by the CPSC, correct?

A. That's correct. Among other aspects.
Q. What other aspects?
A. Some of it has to do with the comparative risk that I performed, and looking at the number of incidents taken into account with the number of window coverings that are present in homes.
Q. But, again, your risk analysis, this was not based on examining any particular blinds, it was based upon reviewing various in-depth investigation reports, correct?
A. Yes, it was based on not just in-depth investigations but information that was available from other sources that don't have the richness, the broad detail of information that the in-depth investigations do, but rather other sources that identify causes of death in the United States.
Q. And isn't your opinion simply based on nothing more than the fact none of these documents mention inner cord as being a problem?
A. Well, that certainly is a very important part of it, yes.
Q. Is there any other part to it?
A. It's not -- I would say it's not just relying on other people's summary of the documents, but having read the individual incident reports myself and analyzing those.
Q. Well, Dr. Wood, my question to you is what unique

skills are you using to analyze these investigation reports and draw a conclusion that they don't identify in a cord hazard that myself or a member of a jury could do?

A. The process of analyzing this kind of incident data is one that we train our staff on. And human factors scientists in other kinds of organizations such as the National Transportation Highway Safety Administration, the FAA that looks at aircraft accidents, it's the same kind of process. And it's coding the data, it's understanding that errors can be made in the coding. Having a second person review that process, seeing if there is agreement, understanding where there might not be areas of agreement, coming to some resolution of those. And then after the individual records are coded, then analyzing those to try and identify patterns that are present in the data.

Q. Your conclusion was ultimately the data didn't mention any cord hazards?

A. That's correct.

Q. Who is the second person who reviewed all the data that you did?

A. I'm not sure I can remember the specific names of the people involved in that task. It would be other people within the human factors practice at that time.

Q. And that was the 1993 study you're talking about, correct?

A. Yes.
Q. Did you go back and revisit that data?
A. I did. I wanted to see if in hindsight in looking at the same data set, was I able to see something different.
Q. Did you have a second person help you categorize and analyze the data this time around?
A. Yes.
Q. And who was that?
A. Elizabeth Nichols.
Q. Who is Ms. Nichols?
A. Ms. Nichols is a Ph.D from Stanford University.
Q. Other than your ability to categorize the data, are you utilizing any special skills that I don't have to reach the same conclusion?
A. Well, I don't know what special skills you might have.
Q. I have very little as you should be able to tell by me talking today.
A. It does require some training. I have now been within the human factors practice for 23 years. And I have new Ph.Ds coming into my practice on a regular basis. And I do not expect them to be able to perform this task without some training.
Q. You don't expect them to be able to look at documents and say, this document doesn't make mention of a risk,

therefore, the risk isn't there?
A. That's not really what they are doing. What they are initially doing is coding the information without really preconceived notions of what the risk is or what the hazard is.
Q. So your opinion on what the knowledge of the industry was and what the knowledge of the CPSC, though, was based upon your review of these documents, utilizing your human factors expertise?
A. It is in conjunction with the other information that was available from that time period.
Q. Did you interview anybody from the CPSC to discuss this hazard in reaching your conclusion?
A. In my report here?
Q. Uh-huh.
A. No, I have not.
Q. What about members of the industry?
A. I have not spoken with members of the industry since 1993.
Q. So it's based upon the review of the documents that you identified?
A. A review of the documents? I mean, I was speaking with Levolor and then Newell in 1993.
MR. KRUSE: No further questions.
THE COURT: Any redirect?

REDIRECT EXAMINATION

BY MS. PODULKA:

Q. Dr. Wood, does your opinion change whether this particular subject mini blind was manufactured in 1988, 1989, 1990, 1991, 1992, or 1993?

A. No, it does not.

MS. PODULKA: That's all I have. Thank you.

THE COURT: Anything further?

RECROSS-EXAMINATION

BY MR. KRUSE:

Q. Dr. Wood, when you did your work for Levolor in 1993, did Levolor give you access to a copy of a letter written in 1999 -- 1990 by an individual known as Tommy Griesbach?

A. They did not.

Q. Are you familiar with that letter?

A. I am.

THE COURT: Anything further?

MS. PODULKA: No.

THE COURT: Thank you, ma'am. You may step down. Why don't we recess until 1:30, and then we'll take up the last witness. Court is in temporary recess.

(Court in recess from 12:27 p.m. until 1:33 p.m.)

THE COURT: Would you call your next witness.

MR. KRASOVEC: Yes, Your Honor, the defense calls Dr. Erick Knox.

THE COURT: Sir, you want to step up here and be sworn.

ERICK KNOX, Ph.D,

Having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KRASOVEC:

Q. Would you please tell the Court your full name.

A. Erick Knox.

Q. Mr. Knox, where do you live?

A. I live in Naperville, Illinois.

Q. What are the areas of expertise that you intend to offer opinions on in this case?

A. Biomechanical engineering and accident reconstruction.

Q. Why don't you give us a rundown of your educational background.

A. I have a bachelor of science in engineering from Marquette University. I studied in the biomedical engineering department. I also have a master of science in biomedical engineering from Northwestern University, and a Ph.D in biomedical engineering from Northwestern University.

Q. And when was it that you earned your Ph.D?

A. 1996.

Q. And was there a particular area of study that you emphasized in your Ph.D work?

A. Yes. My particular area was more biomechanical engineering. Biomedical engineering is essentially the field of all engineering disciplines as it relates to the human body. In the medical field there's subspecialities. Mine is biomechanics, with is the application of the principles of mechanics and mechanical engineering to the human body and the medical field.

Q. Well, then what is biomedical engineering?

A. That's the broad engineering discipline. There's subdisciplines such as biochemical, bioelectrical, and biomechanical. And I focused more on the biomechanical side of it.

Q. Well, what types of course work did you take in your education starting with your undergrad, other than English 101, I guess, going forward, what kinds of classes did you take in this area of biomechanical engineering?

A. Focusing more on the engineering aspects of the education, both of the programs at Marquette and Northwestern are ABET accredited, which is the credit issued board for engineering and technology. Their curriculums meet certain minimum requirements for engineering education. As such, I took the core engineering courses such as physics, chemistry, statics, dynamics, strengths of materials, materials type courses including biomaterials type courses.

And then there's an aspect that was covering the bio

side of it, which was anatomy, physiology. And then classes that were somewhat in between, such as treating human bodies as an engineering object, if you will. And those classes focused on biomedical instrumentation, biomechanical aspects of the human body, things like that.

Q. Okay. And you mentioned an accreditation. Are you a licensed professional engineer?

A. Yes, I am.

Q. And in what state?

A. I'm a Licensed Professional Engineer in Illinois.

Q. Now, how long have you worked in the field? Apart from your education, how long have you worked in the field of biomechanics?

A. It's been over 20 years now.

Q. Why don't you describe for us your work experience or professional experience in the biomechanical field.

A. My professional experience is essentially more than 15 years. And it was as a result of joining my company, which is Engineering Systems or ESI. Currently I'm a principle engineer. I'm also the director of biomechanical and safety engineering. I've had a number of different positions throughout my employment at the firm. And I am involved in essentially applying my engineering background to numerous range of different types of projects.

Those projects, many times I'm using my

biomechanical and human factors and accident reconstruction skill set to perform an investigation. Many times I'm asked to do an accident investigation where an accident has occurred, and I'm asked to figure out what more likely than not happened.

The projects that I get involved in include consumer products. They include workplace safety, construction safety. The range of products I work on are also varied. The products can be consumer products. We have a window blind here that is considered a consumer product. Ladders, step stools, power tools of many different kinds and types, including grinders and press tools and things of that nature.

And I've also done industrial type accident and equipment associated with that, which would include such things as wood chippers, industrial cutting tools, things of that nature.

Q. You mentioned accident reconstruction in your answer. What does that field entail? What's the field of accident reconstruction?

A. I have -- actually I have continuing education as well that is focused on accident reconstruction. I've taken the Northwestern accident reconstruction courses, there's two of them. I've also taken continuing education courses on forensic analysis of medical records for accident reconstruction. I've also taken several continuing education

courses on impact biomechanics and injury causation and mechanisms analysis in accidental environments.

Accident reconstruction is essentially the field where an accident has occurred and we are trying to find out more likely than not what happened.

So over the course of my 15 years of professional time with Engineering Systems, I've been involved with and conducted hundreds of accident reconstructions.

The methodology used for accident reconstruction is essentially an offshoot of the scientific method whereby you are gathering information, collecting information from a number of different sources, and those sources can include people who were around at the time of the accident, whether it's testimony or interviews or statements that they may have given to other individuals.

It's also a collection of data associated with the environment and/or the product that might have been in play at the time of that particular accident. That generally consists of physical evidence. There may be an automobile involved, there may be a physical product involved that has damage assessment and you assess that. You collect that data and you understand more about that. I can talk more about that in a minute.

Then there's the other side of the accident reconstruction that I'm generally involved with is the

biomechanical side of it. I've many times called it biomechanical accident reconstruction. And it's an assessment of -- it includes an assessment of what the injuries are, and my knowledge and experience with how injuries are created, the types of motions and forces on the body that are necessary to create those injuries.

It is used as a piece of physical evidence in reconstructing the accident. So to recapitulate, there is a collection of data, and it includes the injury and the analysis of those injuries, the physical aspects of the accident where that occurred. There might be a site inspection. There might be further testing of the product that was involved, and then the other information about the accident. And with that each of the pieces of information can be used to test hypothesis about what happened. And it needs to be supported or not supported with the evidence.

And then things can be ruled out. I like to think of it as essentially if you don't give me any information, I can't tell you anything that happened. The more information I gather, the more data I collect, the more I can use that data to help me narrow down and try to come to a determination of what more likely than not happened.

So that's fundamentally the methodology. That actually has been published and peer reviewed for the accidental injury aspect of it. And I do use that

methodology for this particular type of work.

And I would ask to clarify something, you mentioned accident reconstruction. Many people use that term to deal with automotive accidents and the reconstruction of automobile accidents. I personally don't do the automotive accident reconstruction. That many times deals with calculations and assessments of the vehicles themselves. I deal with accidental environments where a person is injured with a product or an environment at a site. And I use the available information to find conclusions about what more likely than not had happened.

Q. Okay. And we'll talk a little bit more about accident reconstruction in just a bit. I want to maybe come back to some of your experience and background. Are you active in the engineering community?

A. Yes.

Q. Okay. For instance, do you sit on any committees that write standards?

A. Yes.

Q. What is that committee?

A. I am the chairman of the American National Standards Institute A14 committee on ladders. That committee puts forth the safety standards for portable ladders and, frankly, other types of ladders.

Q. So what types of work do you do in connection with the

standard creation, for instance, with ladders?

A. The process is basically set forth by the ANSI essential requirements, and there has to be balance and there has to be due process and consensus. And so the activities of the committee are built on generating those requirements for the purpose of updating standards.

We have regular meetings where we sit together and talk about the state, if you will, of the safety of ladders. There's determinations made based on whether or not there's new allegations that need to be addressed from a safety standard. I work with CPSC staff. They are a part of the ANSI ladder standard development process.

I also work with staff from the National Institute for Occupational Safety and Health. They have an active program that they are involved with in ladder safety.

We're actually currently also developing two standards, standards that have not yet been put forth or have been put forth at all yet. There are a number of standards that have been around for awhile, and those are in a process of being revised. That's a continual process. But the new standards, we have a new standard on step stools, for instance. And that process of generating a new standard includes collection of information about the use of those products, the accidents, the types accidents that occur in those. And it's essentially a consensus building process

whereby there's discussions associated with the information that's presented.

We look at CPSC injury data that's typically produced out of a NEISS data program, the National Electronic Injury Surveillance System. And use those and have discussions about what's required for safety in a particular type of product. It's an active process.

I've been the chairman of A14 for over ten years. And I'm also a chairman of one of the subcommittees that puts forth metal ladders. And I'm also a subcommittee member on several of the other ladder committees.

Q. Well, your work in connection with that standards committee, does that translate in any way to window blinds and the window blind design and industry?

A. I believe so, yes.

Q. In what way does that -- does your experience there assist you in the evaluation of window coverings and the standards that apply to it?

A. The knowledge, if you will, of the process by which safety standards are developed, the types of information that are being utilized to make those determinations, and the types of involvement of the different types of individuals is all useful information as a context to the industry knowledge and the development of safety standards within the Window Covering Manufacturer's Association.

I will add that as part of my accident reconstructions, the other side that helps that is the product safety evaluations. And many times the accident reconstruction leads to an analysis of a particular product and whether or not there are safety issues associated with that particular product in the context of that accident reconstruction. In other words, knowing how the accident happened, there's a determination then did the product play a causal role or was there something about the product that was defective or unreasonably dangerous.

That context as well with the ANSI involvement allows me to do product safety evaluations in the context of accident reconstructions on a regular basis.

Q. And do you have any other professional affiliations?

A. Yes, I am a member of the American Society of Biomechanics, the ASTM.

Q. What does ASTM stand for?

A. American Society of Testing Materials. And then several honor societies for engineering, and several other engineering organizations.

Q. And are those various, the associations and honors, are they set out in your curriculum vitae?

A. Yes.

Q. And for the record, that I believe is attached as Exhibit B to the defendants' response to the plaintiffs'

motion.

All right. Let me ask you a little bit about what you were asked to do in this case, so I'll ask you that. What were you asked to do with respect to the Robinson matter?

A. I was asked to perform an accident reconstruction in this particular matter, and also to respond to plaintiffs' contentions about the accident reconstruction. And then with that context try to assess the -- what the industry knew about the inner cord hazard. Because as we know, the incident involved the inner cord, and whether or not the industry basically acted appropriately and whether or not that was unreasonably dangerous or whether that was knowable at the time.

Q. And can you just describe for us generally how the operating system of a mini blind works?

A. Sure. The mini blind essentially for operation has a cord which is accessible by the user. That cord then goes into the head rail through the lock mechanism and then progresses down the rail and then into the slats of the -- down into the slats of the blinds themselves where they are anchored to the bottom rail. Pulling on the pull cord raises the lower rail, which raises the blind up essentially.

And obviously the slats themselves can be tilted with a wand. That is basically the two mechanisms by which

you can look out a window that has a window covering on it. You either pull the blinds up completely using the pull cord out of the way, or you can tilt the wand and have access to a partial view, if you will, because there will be some obstruction due to the slats. That's generally how the blinds work. I could describe it in more detail if you like.

Q. That's fine. You talked about an inner cord. And what is the inner cord again, just so we're clear?

A. The inner cord is the cord that is in the middle of the slats. I like to call them the slat holders are basically ladders, but the slats are held apart by fractions of an inch. Within the middle of each of those slats at that location the inner cord goes down the middle and is anchored to the bottom rail. So it's within the confines of the slats actually where the nylon ladder holds the slats.

Q. And we've been referring in this case to something known and called an inner cord hazard. What's an inner cord hazard?

A. Well, the inner cord as it exists in the blind itself is not a hazard per se. You have to create the hazard. And you have to then create a loop by manipulating the inner cord into a loop by grabbing within the confines of the slats and where that nylon ladder is located and pulling out the inner cord to a length that would create a loop. There are certain circumstances in the blind position that would allow that to

happen, and there's certain positions that don't allow that either.

But it functionally gets -- it's a hazard when there is a loop that's created as a result of manipulation of the inner cord.

Q. In terms of the operation of the blind, I heard you say that you can raise and lower the blind with the pull cord, right?

A. Yes.

Q. And you can change the orientation of the slats with the tilt wand?

A. Yes.

Q. Is there any operational aspect of the inner cord in terms of interaction by the user?

A. No, none. The inner cord is between the slats of the blind. It's not intended to be touched during operation, as entirely the pull cord is the function to raise and lower the blind. So the inner cord has no contact with the user under intended use.

Q. Now, let's talk about your accident reconstruction that you've done in this case. And my office asked you to prepare a report with respect to this case. Do you remember that?

A. Yes.

Q. And did you do so?

A. Yes.

Q. And I believe that report is dated May 23, 2012. If you just want to --

A. Yes, that's correct.

Q. -- get that in front of you there. And attached to that report are there photographs of some work that you did in connection with your accident reconstruction?

A. Yes, sir.

Q. Maybe let's come at it from the other direction. Did you reach any conclusions about how Catara was injured in this accident?

A. Yes, I did.

Q. Okay. Why don't you tell us what that conclusion was.

A. I had concluded that Catara was injured as a result of being asphyxiated through the inner cord loop that was created on the right-hand side, and that ultimately the analysis of how that came to be was inconsistent with available evidence. There was -- as I mentioned to you before, part of the process is an analysis of the range of different possibilities that might explain the accident. In testing those, if you will, many hypotheses with data and/or evidence that can help rule that out.

So the available evidence did not seem to be consistent with Miss Catara Robinson accessing the blind from the ground or in any of the locations that were apparent or adjacent to it. And I was not able to rule out that the

inner cord actually had a loop in it prior to the -- prior to the time of the accident.

Q. Okay. Let me -- you talked a little bit earlier about general methodology with regard to accident reconstruction. Why don't you tell us about how you applied that methodology to your reconstruction in this case.

A. Sure. There's a lot of information that I used and pulled together for this particular analysis. It started with gathering information about the incident itself as reported by the police. They had a report. They also had interviews of the parents. There was also a social worker's report as well as the social worker interview with each of the parents. There was further CPSC in-depth investigation that was conducted as a result of this particular incident.

Q. Before you even go on to that, did the police also take photographs of the accident scene?

A. Yes, and that was another aspect of my analysis separate and apart from reviewing the report and the interviews, there was an assessment of the photographs that they took of the house and of the particular location where the accident occurred.

There's also testimony that was put forth by Mr. and Mrs. Robinson and others as it related to the condition of the blinds, when the blinds were installed and what happened in the particular accident.

Q. Okay.
A. I also conducted an investigation or inspection and testing of a blind that was allegedly in the house at the time that this incident occurred, but it was not the subject blind. The subject blind was not available. From reading the information, I've come to understand that Mr. Robinson had thrown it away. And so the only available information I had for the subject blind came from either the testimony or the review of the photographs.
Q. Did you also conduct an inspection or have somebody at your direction conduct an inspection of the home where the incident occurred?
A. Yes.
Q. Who did that for you?
A. That was Dr. Charles Landy.
Q. And is he local here in St. Louis?
A. Yes, he is.
Q. And did you direct him as to what measurements you wanted him to take?
A. Yes.
Q. All right. And so what was it that you did in terms of that inspection of the home?
A. I had information that I had gathered from the deposition of Mrs. Robinson in particular, not only to the accident but to other things in the household that she

indicated that Miss Catara Robinson couldn't reach. So I directed Mr. -- Dr. Landy to go to the accident site and specifically document the window opening and the dimensions of the room where the accident actually occurred.

So the heights of the windowsill, the spacing of the window within the opening of the outer wall, the height to the top of the window. Try to make an assessment, if possible, as to how the blind was actually attached. And then take photographs to try to document that. And then also to then make a measurement, an assessment of the other locations in the household where Ms. Robinson, Tiara Robinson, indicated her daughter couldn't reach.

Q. And why did you do that?

A. It's another data point in the accident reconstruction. You want to gather the data where possible. Many times it's not possible. But in this circumstance the location where she said she couldn't reach included shelves in an inner hallway. Those were still available to be measured, so I did that. And the mantle location where there was a weed killer, I believe, on the mantle. And that was measured because that was available as well.

So it was essentially gathering information, creating another data point for an assessment of what was Catara Robinson's capability in terms of reach at that particular point in time.

Q. And then based on all these measurements that you had taken, what did you do next?

A. One of the other things that was done was I took these measurements and made a mockup of that particular subject site. So a replica, if you will, of the wall in terms of the dimensions. And I obtained an exemplar blind as well to mount in that particular opening. And it was constructed to be substantially similar to what the information we had available was about the length and the width of the subject blind.

So that was put in place. And I mentioned to you I examined and tested an exemplar blind that was in the household. I also did the same analysis and testing of the exemplar blind that was sent to me.

I further used that physical reconstruction of the site to conduct a surrogate study.

Q. And I'll ask you about the surrogate study in just a second, but I want to come back to your analysis of the other blind that was taken from the home, you said not the subject blind because it had been thrown away, but one that had been taken from the home. What did your analysis of this other blind entail?

A. I inspected the physical condition of the blind and set it up so that I could operate it and see its functionality. And, again, there was a testing of whether or not you could

create an inner cord loop under various circumstances, the operation of the blind with pull cord, and an assessment of whether or not it was generally consistent with other blinds of this like.

Q. Now, you mentioned that you conducted a surrogate study. Why don't you tell the Court, if you would, what is a surrogate study?

A. A surrogate study is a use of a surrogate or a substitute for the actual either person, in this particular case. And it's used to try to understand capabilities and fit of a person with an environment. In this particular case I used a surrogate of similar size to Miss Catara Robinson to try to understand the capability of a child that size to reach and access the inner cord of a substantially similar blind in an identical physical circumstance.

Q. Okay.

A. The surrogate study is juxtaposed, if you will, to anthropometric data as well. Anthropometric data is available for various children. They do various measurements such as height and arm reach. And that data was accessed as well in this particular case.

But there were aspects of this particular setup and circumstance that I felt a surrogate would help add more information to assessing whether or not a child could reach that. And let me be more specific.

Q. I was going to ask you, and let me just stop you there. What is it about anthropometry that is limited in terms of analyzing what happened in this accident, or I should say limiting in terms of analyzing what happened in this accident?

A. Anthropometric data performs a backdrop, if you will, for assessing the size and shape and capabilities of people. But in general it's a group of people that perform measurements that -- and they create statistical data. It's not a particular size person with particular measurements. And as such, it can give you an understanding of general data. But if you want something very specific, it's more appropriate probably to do a surrogate study.

Q. And is that why you did a surrogate study in this instance?

A. I did so, yes.

Q. Does the surrogate study allow you to assess the dynamic interaction of a person with a product in an environment that you built here?

A. Yes, and that's important.

Q. Why is that important?

A. Because for this particular circumstance, the window blind is at a height that a person would have to get -- of Catara's size, okay, would have to get up on their tip toes in order to be able to reach. Well, you can't just put

somebody on their tip toes and have them reach overhead and assess whether or not that allows them to create, for instance, in this case a manipulation of inner cord and create an inner cord hazard.

But secondarily, and more importantly on the big picture, is the balance issue. When you have a child that's on two feet tip toes, they have to have a foot spread that allows them to maintain their balance. And as the surrogate study in my case showed, there's a spreading of the feet when they are on their tip toes, and then they are reaching for the wall as sort of a point of registry or balance as well. And that is not sort of purely directly overhead reach, so there's aspects of the dynamic interaction with the wall that are important for this.

But, secondarily, the aspect not only when they could reach or if they could reach that height, then they would have to not only just be able to touch it with their stretched fingertip, we're talking about fine motor manipulation of grabbing the inner cord to pull and then create a hazard. In my particular surrogate study, the child was not able to even reach the blinds, which was a relevant data point as well.

Q. Tell us a little bit about the surrogate child you chose for your study.

A. The child was a boy who was in the two-year-old range.

His height was 36 inches, which was approximately half an inch larger than Miss Catara Robinson. But I also made additional measurements on the surrogate to try to assess the specific anthropometry of the child and compare it to the general population of that same size. And I measured the shoulder height and I measured the arm reach length.

Q. And why did you do that?

A. Well, because the reach for that child includes not only their height, which is a substantial majority of what gets them to a height, but it's the links of the shoulder and the arm that allows them to get their reach up over their head. So if, for instance, my surrogate had a 36-inch height, which is larger than Catara, but the shoulder height and the arm length were small, then you would sort of potentially underestimate the reach of a surrogate who was -- or the actual person of that size.

So my measurements of their shoulder height and their arm reach length were, one of them was over the 50th percentile for that age group collectively, and the other one was slightly under. And so with this particular age group and distribution, it was my assessment that this was a very appropriate surrogate for assessing whether or not Catara Robinson could reach this particular location.

Q. Okay. And you've included photographs, again, of your surrogate study as part of the attachments to your opinions,

correct?

A. Yes. And surrogate studies are routinely relied on by people in my field for the purpose of assessing reach and capabilities, and that filters into the accident reconstruction performance. Provides data, physical data that can be used to assess allegations or contentions about whether or not in this case Catara could reach the subject blind from the floor.

Q. And then why don't you walk us through how you went about conducting the surrogate study starting with bringing the child in and what happens next.

A. Yes. Well, measurements were made, and then the child was coaxed to try to reach as high as possible. After a -- and I'm trying to take photographs that are capturing that moment of maximum reach. The maximum reach was conducted a number of different times in a number of different photographs for me.

It became clear to me after a period of time in the surrogate study that the child was not going to be able to reach the blinds, and so the coaxing was just, you know, point as high as you can. Reach as high as you can possibly touch on that particular wall. So that was what was done, and that was documented. The maximum reach was 45 inches.

Q. And was this work done in this area, this wall that you built?

A. Yes, this was done back at my laboratory.
Q. Is there a standard methodology by which you conduct a surrogate study?
A. The methodology for a surrogate study is probably dependent more so on the goal of the surrogate study. Sometimes there's functional aspects to the anthropometric study, sometimes there's just fit within the environment aspects.

Again, the methodology that I used was essentially to -- for this particular surrogate sort of was to test the hypothesis about whether a child of this particular anthropometry could reach and access the inner cord and create a loop.
Q. Okay. And how does the surrogate study fit into your methodology of accident reconstruction generally?
A. As I briefly mentioned earlier, the surrogate study is a collection, it's part of a collection of data. When I assessed a certain amount of information in this particular case, it became clear to me that that was going to be a very important point to try to gather more data on. And, again, it is part of the scientific method to assess and test hypotheses about reach. In this particular case could Miss Catara Robinson reach that particular location.

The anthropometry was assessed and that provided a data point as well, but I felt that a surrogate study would

provide physical data and more data to allow me to test the veracity of that particular hypothesis.

Q. And when you've done accident reconstructions in the past, have you always done them in connection with lawsuits like what we're involved in here today?

A. No.

Q. Okay. In what other context have you performed accident reconstruction?

A. The accident reconstruction that I've done in the past has included assessments of products that were potentially involved in recalls, and there were accidents that were happening. I can give you a particular example.

Q. Sure.

A. There was a chair manufacturer that had chairs that were breaking in service. They had people who were falling from the chair as a result of the breaking. And they wanted to understand how those accidents were occurring. So I conducted sort of a broad-based study of the product itself to understand the engineering that was involved in that particular product.

There was a failure analysis of that particular product conducted as well as surrogate testing of people in these chairs simulating breaks, and the resulting motions that would occur, assessing whether or not the allegations from the field were making sense as to how the chairs were

breaking.

It turns out they were, okay. The stories that were coming from the field on how the chairs were breaking were consistent with the laboratory testing. So that data confirmed that these incidents were occurring that particular way.

Another example would be that -- for non-litigation type stuff would be a manufacturer of children's shoes had asked me to determine whether or not children were capable of tearing off or breaking a portion of the shoe. They wanted to put a toy on the shoe, but if it broke off, it would have been an ingestion and choking hazard, so they wanted to assess the capability of the children. So I conducted a series of testing with a range of children with a special instrumented shoe to understand and put the children through various activities that would assess their capabilities and generating forces under various circumstances.

And it turns out that the conclusion was you don't want to do this, the children are capable of performing enough force on these shoes to break these off.

So those are two examples of sort of non-litigation areas where the methodology of assessing what's possible, and in particular, you know, potential accidental circumstances and the forces that are involved in those, could they occur and testing those.

Q. Thank you, Doctor. Let's come back then to the surrogate study you did for the Robinson case. I believe you told us, but I want to back up and start here. What was the maximum reach of the surrogate that you used in your study?

A. The maximum reach was 45 inches.

Q. And do you recall the measurement from the floor to the bottom of the windowsill?

A. 46-7/16.

Q. Now, that's a measurement that came from the person who did the measurements at your direction?

A. Yes. And there were other measurements of the accident scene windowsill height that were confirmed. They were all very close to each other.

Q. From the photographs that the police took of the subject blind while it was still in the window, were you able to determine approximately from where this inner cord was extracted from the subject window?

A. Yes.

Q. And approximately where was -- in your opinion where was, based on the photograph where was the inner cord extracted?

A. If I understand your question --

Q. Or how high up from the floor, I guess, was the inner cord extracted from the blind.

A. The inner cord, based on the review of the police

photographs, there was some damage to the blinds that were indicative of where the inner cord loop had to be generated from or the possible locations, and it was several inches above the windowsill.

The particular dimensions were it was over 50 inches above the floor, and that included the vertical height assessment of the possible lowest location where that inner cord loop could generate from, which I believe was the fourth slat up from the bottom. And it included as high as the sixth slat, I believe.

Q. I just put back up here, this is Defendant's Exhibit No. 9. This is -- you recognize as one of the photographs that the police took of the subject blind?

A. Yes.

Q. And this type of photograph, perhaps blown up some, this is what helped you understand where it appears the inner cord was extracted from the subject blind?

A. Yes.

Q. And so what again were you able to calculate the range of the height from the floor where you believe the inner cord was extracted from the subject blind?

A. I believe 50.4 inches would be the lowest location where that inner cord loop could be generated from.

Q. Okay. And so in your opinion based on your surrogate study and your study of the accident scene photographs, were

you able to draw any conclusions or come up with any opinions as to whether or not Catara Robinson could reach where the inner cord had been pulled out, could reach that by standing on the floor of the bedroom?

A. Yes. The data and the analysis and the available evidence indicated that she could not reach that location from the floor.

Q. Okay. Now, did you consider the presence of some of the objects that were in the room? And we see in the photograph the various police photographs --

A. Yes, I did.

Q. -- of the day of the accident. Okay. Why don't you tell us what the first object was you considered that might have affected Catara's ability to reach that point in the blind.

A. There is a pink box that was on the floor almost directly underneath the location where the inner cord was, but it was slightly to the left. And I considered that maybe Miss Catara Robinson was actually standing on that particular pink box to access the blinds, in particular the specific location where the inner cord came from.

As my analysis showed, though, even adding an extra two inches, as if she were standing on the box, would not allow her enough reach to access that location on the subject blind.

Q. Well, let me ask you this: I take it then you've had a chance to look at the pink box?
A. No, I have not.
Q. So do you know if anybody's looked at that pink box?
A. I don't know if that's available. I just looked at the photographs and tried to make an estimate.
Q. And you estimated it was about two inches, it's width was about two inches if it was laying on the floor in the same position that we see in the police photographs?
A. Yes. I'd call it the height in that particular position.
Q. So when you add the height of the pink box or the pink toy to the reach height of your surrogate, what was your conclusion?
A. That Miss Catara Robinson would still not be able to reach the location of the subject blind where the inner loop -- inner cord loop was created.
Q. Now, did you also consider any other objects that are seen in the photographs that the police took of the subject bedroom?
A. Yes.
Q. What other objects did you consider?
A. There's a black bin that's in the corner of that particular room that is used to put toys in it. And I did consider that as one of the possibilities for whether or not

Miss Catara Robinson maybe used that.

Q. Okay. And we've got a closer photo of that bin. This is Defendant's Exhibit No. 8. Dr. Knox, do you recognize this as another one of the photographs taken by the police that day?

A. Yes, sir.

Q. This shows, for instance, there's a plate with some eggs and bacon that appears to be overturned?

A. Yes, sir.

Q. And is that consistent with Mr. Robinson's testimony?

A. It is.

Q. What -- based upon the photograph, what were you able to conclude about the shape of the box?

A. The photograph, not only this one but several others, indicate that this is a bin that is larger, wider at the top than it is at the bottom.

Q. And what's the significance of that?

A. The significance is that -- it has multiple-fold significance. First of all, it's inherently unstable if somebody were to try to stand on that upper outer edge, if you will, of that. It's a simple matter in physics that the wider it is at the top, that if you are outside your base of support, meaning where the ground is actually contacting this particular bin with a force as if somebody were standing on it, then that would create an overturning moment and it would

tip over. So that was significant.

And it's not atypical, you know, other bins that are built generally the same, and it's consistent because a lot of these bins are generally stackable inside each other. So it's all consistent with that.

I might add that I do quite a bit of work with ladders, and I deal a lot with stability and stability of consumer products. I do a lot of testing related to stability. And ladders actually have to be wider at the bottom than they do at the top just for that reason, so that as you get up higher on it, you are maintaining your body within the base of support so that it won't tip over.

Q. Have you ever been provided with what purports to be the contents of what was in this bin?

A. No.

Q. And you never had the opportunity to inspect the bin itself, correct?

A. That's correct.

Q. And from this photograph taken by the police, it appears that the bin is pushed into the corner of the room, one of the corners of the room; is that fair?

A. Yes.

Q. Does putting the bin in the corner of the room add or change its stability in terms of somebody being able to stabilize themselves while standing on one of the edges of

the bin, particularly the inward edge?
A. Well, I was going to say, I was going to qualify my answer, it depends on which edge you're standing on, okay. But if you were standing on one of the -- the closest edge that's presented in Exhibit 8, then, you know, that is not against the wall. But, no, that wouldn't enhance the stability of the product.
Q. Based upon your review of the photographs from the scene of the accident, the inspection of the bedroom, the inspection of the physical evidence you had available to you and your surrogate study, were you able to reach any opinions about whether or not Catara Robinson could stand on the toy bin and reach a point in the blind where the inner cord had been extracted?
A. Yes, I did. That's -- and that is put forth in my report as well.
Q. What is that?
A. That it was -- in my report, that it would be extremely difficult, if not practically impossible in order to do that. But I will tell you that additionally there's information that we don't have that would allow us to generate scientific evidence to answer that particular question. For instance, I've given you my opinion based on the stability of the bin itself, and that does not provide enough -- if that were all the information we had, that would be enough to exclude the

bin as a possibility.

Q. I'm sorry, that would be enough?

A. Yes, it would.

Q. Go ahead.

A. What we don't know is the nature of the toys that are in the bin. And there are such things as their compressibility. There's certainly some plush stuffed toys there. That would alter the ability of a child to stand on it, and when they stood on it with their feet, there would be a depression in those particular areas. And it's that type of information that as we sit here today, there isn't enough scientific evidence to say that a child could stand on that particular bin.

There's a lot of other variables here as well. Let me elaborate that if a child was actually in the bin and not on the edge of the bin, that they would be further away from the window. But we don't know exactly how far away that bin is from the window right now with the available information that we have. And so where the child would be standing in that particular bin, even if we would allow that person to stand all the way to the closest edge here from this photograph, we don't know the nature of how their feet are there, whether or not the toys are -- how far the toys would compressed, therefore the height of the child in that particular location.

And this is the nature of why in my report I indicated that we would need to know more information before we could make a determination really from a scientific perspective. There's just a lack of scientific evidence on that particular subject.

But even on top of that particular issue, and say, okay, the child might not be standing on the toys themselves but on the edge of that bin, the material of that particular bin, what is it made of, how thick are the walls, could the child's weight even be supported on that edge without deformation or buckling or deforming. And as I mentioned to you before, unless there's a substantial amount of weight of the toys in the bin, a child standing on the outer edge of that bin would still likely create an overturning moment.

Q. I'm sorry, what's an overturning moment?

A. I'm sorry. That would mean that there is the potential for the bin to turn over. Moments are forces times the distance with which they are away from the point of rotation. In this particular circumstance, the bin point of rotation would be, again, considering if Miss Catara Robinson were trying to use the closest edge for access to the blinds, it would be the closest bottom edge that we see on the ground. That would be the point of rotation. And her force times the distance she's away from that would create a moment towards overturning. The restoring moment would be the weight of the

bin and whatever toys and their distribution site. We don't know, so there's no evidence for that.

But on top of that, as I started to mention, there's the condition of the bin itself. Does the edge deform under the weight of Miss Catara Robinson? Would the weight of the bin sort of buckle or move, and that would create a movement of the bin that could potentially cause the child to lose their balance and/or not support their weight?

Then there's the dynamics of the motion of the child in and around that particular location. And the dynamics, in other words, it's not just their body weight. When you and I move around, we actually generate more reaction forces in our environment. When we're walking on the ground, we generate more than our body weight every time we strike the ground.

So a person who is moving and interacting with their environment would generate more force in order to move.

Q. That's humbling to know. I'm sorry, go ahead.

A. So in this particular case the nature of the child's movement would generate dynamic forces as well. And those dynamic forces on the outer edge of this particular bin would again create forces and directions that could potentially turn it over. And it's those things that there hasn't been any development of any information that would allow me to come to the conclusion that a child could stand on this and create a stable base.

Above and beyond that, there is the -- when -- even if we say that that was a stable base, then there would still be the issue of the reach towards the particular inner cord location that was created here in this accident, which, again, was on the right most inner cord. But that again is inset several inches from the right edge of the window blind and the window opening. And it's several inches up from the bottom windowsill.

And it's the child's ability from that particular -- to create a reach and create a loop and then get their head through that loop without tipping the box over -- the bin over, excuse me.

Q. Was it your understanding that the bin placed in the corner of the room would have been some distance to the right of the left -- I'm sorry, some distance to the right edge of the window blind?

A. Yes.

Q. In other words, the bin in all the photos we've seen is not directly underneath the place where the inner cord was extracted; is that right?

A. That's correct.

Q. Is that where the pink toy is?

A. Generally, yes.

Q. Were there any other objects seen in the photographs, the police photographs in this room that you considered as

possibilities for Catara to have stood on to reach that point in the blind where the inner cord was extracted?

A. Yes.

Q. What is that?

A. The TV stand.

Q. Okay. And what was your analysis with respect to the TV stand?

A. That is inconsistent with the location where the injury occurred where Miss Catara Robinson was located. Although it would provide enough height to access the window, it was not in the right location to allow Miss Catara Robinson to actually get this particular injury.

Q. Well, are there any other options?

A. No. Well, there's beds in the room. And from the testimony, I understand that they were at one point in time underneath the window, and that the children were actually accessing the window blinds, touching and interacting with the window blinds when the beds were underneath the window. But as far as the photographs on the day of the accident taken shortly after the accident, there was nothing else in and around the window that I had considered as a possibility for Miss Catara Robinson to gain additional height.

Q. In the police photographs that you've looked at, and I won't pull them out, but in those that you looked at, where were the beds positioned in the room?

A. Around the interior wall of that same bedroom, the opposite wall of the window.
Q. And how many beds were there?
A. Two.
Q. So through your accident reconstruction -- let me ask you this, we'll come back to the bin. With respect to what is known in terms of its contents in terms of its dimensions, its principles, its characteristics, in terms of what we know now, are you scientifically able to rule that out as something that Catara could stand on?
A. With the evidence I have now, that's why I indicated that it was extremely difficult and if not practically impossible. So that from my scientific analysis, I don't believe that was the access point for Miss Catara Robinson.
Q. Then if she is found with the inner cord unfortunately around her neck, based upon your accident reconstruction and your analysis in this case, is there -- are there any conclusions left that you can draw from the analysis that you did?
A. We may have -- I believe we've touched in part on this earlier, and that is that part of my accident reconstruction process and methodology includes trying to find out whether or not there's any other possibilities that allow for the evidence to fit.
There is evidence that is testimonial and then

there's evidence that is physical. Where there's a discrepancy between the two, I have to error on the side of the physical evidence. Testimony done or remembered, if you will, in the moments of an incident, it can happen quickly, recollections can be incorrect. Remembrances about occurrences can be inaccurate. To the extent that the physical evidence differs from the testimonial or witness testimony, then I have to sort of error on the side of the physical evidence.

I considered the physical injury of Miss Catara Robinson physical evidence. I considered the site geometry, in particular the height of the windowsill and the location of the blind to be physical evidence. I considered the surrogate study, et cetera, another piece of evidence that indicates that Miss Catara Robinson would not have been able to reach that window blind if the inner cord were within the slats of the window blind in the moments prior to the incident.

So I believe that that leads me to the scientific, if you will, contention that it is certainly in the -- it's probable that that inner loop was there prior to the incident.

Q. So is it your opinion to a reasonable degree --

A. And let me clarify, with the evidence we have right now, I've come to the -- with the state of the knowledge and

information we have now, she can't reach it. She can't reach it from the bin or the ground. So in order to get that, it would have had to have been there prior.

Q. And so the conclusion you ultimately drew is to a reasonable degree of engineering certainty, it's more probable than not that that loop had at least started to some extent prior to when Miss Catara Robinson interacted with the blind at that time when the accident happened?

A. Yes, because it doesn't fit with the rest of the evidence that is currently available.

Q. Did you consider in your work in this case -- move on from the accident reconstruction. Did you consider misuse in connection with -- misuse of the blind in connection with your work in this case?

A. Yes, I did.

Q. And in your opinion, is the extraction of the inner cord to form a loop, is that a misuse of this product?

A. Absolutely.

MR. KRUSE: Foundation.

THE COURT: Overruled.

Q. Now, you've also given an opinion in this case that this inner cord hazard that you told us is created when somebody extracts the inner cord loop from the middle slats, that that had not been identified to manufacturers generally of window blinds until many years after this particular blind

was in all likelihood manufactured?

A. Yes.

Q. Now, can you tell me the basis of that opinion?

A. The basis includes generally, and I'll go back and revisit these, an assessment of when the subject blind was more likely than not manufactured. It included an assessment of the testimony about when the blind may have been installed in the household. It included an assessment of the design of the product, with respect in particular to how does an inner cord loop get created. And that it also included a broad review of the industry knowledge throughout the years that dated back to the mid eighties on through to the 2000s about this particular hazard and when it became known to the industry.

Let me start first with the assessment of when the blind was manufactured. The subject blind was not available. It was not able to be inspected to determine a manufacturer. But considering that the brackets that hold the blind were consistent with a Kirsch product, based on my reading of the evidence, and the attachment screws used to attach the brackets to the wall, the manufacturing time period of the blinds was some time after 1985 but before 1988 or '89 based on the screws that were used in the package to mount those brackets.

So, secondarily, when we have a manufacturing date

no later than '88 or '89, in all likelihood or to my opinion from what the evidence says, we have an assessment of the design. As I mentioned to you before, when I looked at not only a blind that was in the household, but an exemplar blind, and the inner cord loop does not get created unless you are misusing the product by grabbing the inner cord through and in between the slats. It takes sort of a fine motor control, if you will, or a movement of the slats even in a -- to sort of break the blinds, if you will, to create something like that, which is entirely not an intended use of the product.

The product is intended to be raised and lowered with the pull cord, which is obviously outside the confines of the slats themselves.

Q. Let me just stop you there for a minute. When you say breaking the blind, you mean like breaking the slats, kind of like we see in one of the photographs that the police took, there was one of the slats that was actually broken and hanging down?

A. Yes, that's correct.

Q. That's what you're referring to in terms of breaking the product or breaking some part of it?

A. Yes.

Q. Go ahead.

A. So there was an analysis of how the product is used

from an operational perspective. And the conclusion, as I've stated before, is that people don't access the inner cords during operation. It is not an intended use. It's completely separate and apart from the access to the inner cord and the pull cord. So that provided a strong data point as well for this analysis.

I mentioned to you as well that there was a review of documents that were related to the hazards that were being identified by the CPSC and the basically hand-in-hand interaction between the industry and the CPSC with respect to the notified hazards, and their reaction to those. The data clearly shows that the assessment was essentially -- was pull cords, which is that there were loops in the cords that people actually used to operate the blinds. There were public service announcements. There was ultimately the generation and development of an ANSI safety standard for window blinds. That came out in 1996. That was done in conjunction with the CPSC and the industry.

It wasn't until 1999 that the CPSC had identified what they considered the inner cord hazard, and then notified the industry. At which point in time the industry made a concerted effort to both revise the standard, notify the public, and address the inner cord issue with cord stops and the like.

So that collective -- those are the bases

collectively and generally for the opinion of the foreseeability of this particular inner cord situation hazard, if you will, to the industry and what, you know, a reasonable manufacturer in that particular circumstance would do in those circumstances.

Q. Okay. And would your opinion with respect to this issue about whether a reasonable manufacturer would know or understand this particular hazard, would that, would your opinion change whether this blind was made in 1988 or '89 or '91?

A. No. No. The same set of information would be in play at that particular point in time as well. And I will add that, you know, my particular experience with safety standard development, the process by which you go through that, it adds clarity to the process that the industry went through, and the fact that this is a consensus building process. It's unfortunate, but hindsight is many times 20/20. You can always look back and say that particular incident was there.

But when you're actually going through the process and you're working with the industry -- the industry working with the CPSC in this particular circumstance, analyzing the data, and nobody actually had identified it in particular that there was a specific inner cord hazard in that particular point in time, that I believe that the industry

and a reasonable manufacturer would not have necessarily found that this inner cord hazard was an issue.

Q. And is that opinion that you hold derived in many respects from your experience with your work on the ANSI committee for ladder standards?

A. Absolutely, yes.

Q. Have you -- as the chairman of that committee, have you gone through essentially the same kinds of activities that you see or historically that you saw the window covering ANSI committee go through?

A. Yes. There's an assessment of incoming information about occurrences or incidents that have happened, and an assessment of the severity of those incidents and the use of those particular products. And when you're developing standards, new standards, and you're revising old ones, you are constantly in the process of trying to assess that situation and build a consensus about what's reasonably safe for the particular product. And so in this particular circumstance I worked hand-in-hand with product manufacturers in assessing those issues.

Q. You have one last opinion I believe that you've expressed that is at issue in the pending motion, and that is that in your opinion the injury would not have occurred had this child been properly supervised at the time of the accident. How did you come to formulate that opinion?

A. That is essentially an accident reconstruction and causation opinion.

Q. Why is that?

A. It's focused on the issue of how would the accident or could the accident have been prevented. And it's a result, direct result of the accident reconstruction in determining, you know, how the accident occurred or what more likely than not actually occurred.

So to your question, the methodology included a review of documents that were related to such things as identification of hazards with window blinds. It also included review of documents associated with supervision of children in various circumstances. I understand --

Q. Just let me stop you there. What are you referring to, various documents regarding supervision of children? Explain that in a little more detail, please.

A. Okay. There's information that is available to parents to allow themselves to be educated more on the issue of child care. So "What to Expect the First Year" is a book, for instance, that Ms. Tiara Robinson indicated she had access to. There's some indication in that reference. Ms. Tiara Robinson also works in a daycare facility. There's a particular guideline or standard associated with child supervision that was available as well.

Those documents were accessed, and what came out of

those documents is that, you know, children need to be constantly supervised by both sight and sound. If that were happening at the time of this particular occurrence, I don't believe the accident would have occurred.

Q. And why don't you think the accident would have occurred had the children been properly supervised?

A. Mr. and Mrs. Robinson would have been able to stop them from interacting with the blinds and/or respond quite quickly to any circumstance they felt was starting to become hazardous.

Q. And let me wrap this up. Coming back to your accident reconstruction opinion, is there any published paper or journal, something like that that lays out the methodology that you employ when you do accident reconstruction like the one you did in this case?

A. Yes, there are several publications. The one I referred to earlier was produced by the SAE in 1994, and it was titled "Injury Reconstruction." And the authors were Nahum and Gomez.

Q. And who are Nahum and Gomez?

A. Both of those individuals are people involved in the biomechanics community who have -- I appreciate and respect them. They have published extensively in the area of biomechanical injury and they produced this particular article as well.

Q. And is this article that they produced an authoritative -- is it authoritative material on which accident reconstructionists routinely apply to their methodology?

A. Yes.

Q. Or use to -- or use their methodology to conduct their reconstruction?

A. Yes. In particular I took their methodology and applied it more generally in this particular style of injury reconstruction as well as an assessment of how that injury occurred, and that included the -- basically you have to check and recheck, if you will, the available information to see if the conclusion is consistent with the data or the evidence. And to the extent that they are not consistent, then you have to come up or generate a different hypothesis about what happened. And that's what led me to my conclusions in this particular case.

MR. KRASOVEC: Your Honor, that's all I have. Thank you.

THE COURT: Why don't we take a short recess and then we'll proceed with the cross-examination. Court is in temporary recess.

(Court in recess from 2:49 p.m. until 3:15 p.m.)

THE COURT: Please be seated. Please proceed.

CROSS-EXAMINATION

BY MR. KRUSE:

Q. Dr. Knox, before we get started, I want to make sure I understand some fundamental aspects of what you're saying today. You testified earlier, I understand, that you refer to this cord that runs through the mini blind cord, the inner cord?

A. Yes.

Q. And you would agree with me that in general if the inner cord forms a loop large enough to fit a child's head, that loop does pose a safety hazard, correct?

A. Yes, under some circumstances.

Q. Under some circumstances. But the presence of a loop does form a safety hazard?

A. Under some circumstances, yes.

Q. And you would agree, you're aware that in 2000 the WCSC issued an industry voluntary recall and a retrofit was crafted that addressed this inner cord loop hazard, correct?

A. Yes.

Q. And that ANSI standard and recall to retrofit advised what are known as cord stops?

A. Yes.

Q. And the cord stops, you agree the inner cord is actually part of the same cord as the pull cord, correct?

A. The inner cord is a different location on the blind than the pull cord.

Q. It's a different location, but it's part of the same cord?
A. Physically it's the same cord.
Q. Physically the same cord. And the way cord stops are designed to work is the cord stops stop the pull cord from being pulled up too far?
A. Through the lock mechanism.
Q. And that limits the size of the loop that can be formed, correct?
A. Under some circumstances if it's set correctly, that's correct.
Q. Your opinions that you've offered in this case are based upon what you perceive to be the industry and government knowledge as it existed in the time period that you believe the subject mini blind was manufactured, correct?
A. It's based in part on that, yes.
Q. Would you agree that if a blind were manufactured today in 2012 and did not contain a device such as cord stops or something else designed to limit the formation of inner cord loops, that blind would be unreasonably dangerous?
A. There are circumstances where that might be dangerous. It would not meet the current existing safety standard.
Q. That blind would be unreasonably dangerous in a house that contained children?
A. Again, the safety standard that's in existence would

require a cord stop. But the cord stop would have to be put in the right location to prevent the hazard from creating an issue.

Q. Understood. And you would agree that by addressing the 2000 recall retrofit and the subsequent ANSI standard, the industry has, did at some point in time recognize that people were engaging in physical manipulations that caused the formation of inner cord loops?

A. Yes. Under some circumstances, that's correct.

Q. Dr. Knox, I want to revisit your background a little bit. And we talked about how you have a Ph.D in biomechanical engineering and a bachelor's in biomechanical engineering. In reviewing your CV, it looks like -- and you talked about how you were on the standards committee, I believe for some sort of ladder safety standard?

A. Yes.

Q. It looks like you've done quite a bit of work with ladders, correct?

A. I have.

Q. And it looks like you've done quite a bit of work as well with prosthetic feet, is that fair?

A. That was part of my research, yes.

Q. And it looks like in your publications and presentation portion of your CV, it looks like I counted, and correct me if I'm wrong, 20 of the 24 presentations and publications

deal with ladders, feet, or shoes; is that fair?
A. I won't disagree with that, that's probably pretty close.
Q. And isn't it true that prosthetics in how shoes interact with your feet and body part, that falls in the definition of biomedical engineering you offered earlier; is that correct?
A. It does, yes.
Q. Now, in looking at your report on page 2 in the introduction section to it, you state that among other things the author has prior experience with window covering issues?
A. Yes.
Q. I don't see any window covering issues identified in your CV. Can you explain what your prior experience with the window covering issues are?
A. Yes, I have previously been engaged to assess the Window Covering Manufacturer's Association conduct relative to the generation of the safety standard in the 1996 time frame. And it resulted from an incident where there was an inner cord issue, and there was an allegation of the industry not conducting themselves in a proper manner to address that issue.

And a second incident occurred, and I was involved in an analysis of the child's ability to reach a pull cord. So it was a second incident involving window coverings.

Q. Were both of those incidents in the litigation context?
A. Yes, they were.
Q. And who retained you in the issues of the Window Covering Manufacturer's Association?
A. It was the Window Covering Manufacturer's Association, the attorney for the Window Covering Manufacturer's Association.
Q. You said that incident involved an inner cord strangulation?
A. It did.
Q. You said it occurred in 1996. When were you retained?
A. What I meant by 1996 was the generation of the ANSI standard.
Q. Okay. I understand. I'm sorry. What was the date of that incident?
A. I don't recall.
Q. Do you know who the blind manufacturer was in the second window covering case you worked on?
A. I believe -- Blinds Express comes to mind, but I don't know if there was -- if that's the full name.
Q. Do you have any experience addressing window covering hazards or designs outside the litigation context?
A. No.
Q. Given that your prior experience with corded window coverings and their design, is it fair to say your expertise

is derived from your skills as an engineer more so than familiarity with the products prior to this litigation?

A. Well, my entire background and education and training, professional experience provide me the necessary tools to do my analysis in this case.

Q. As an engineer your training and background provide you with the necessary tools to undertake the analysis you did in this case?

A. Among other things, yes.

Q. Dr. Knox, I'd like to briefly visit the four opinions or conclusions you offered in this case. You discussed them recently with Mr. Krasovec. I'm going to briefly touch on them a little further. I'd like to turn your attention first to the first conclusion. You would agree your conclusion is that the inner cord hazard associated with horizontal mini blinds was not identified until many years after the subject blinds are manufactured? This hazard was not reasonably foreseeable to occur, correct?

A. Yes.

Q. You would agree that this opinion can be basically broken down in two parts. First, you rendered an opinion when the subject blinds were manufactured, and then your opinion is based upon what you perceive the industry to have known at that time, correct?

A. Essentially, yes.

Q. Your opinion on when the blinds were manufactured, that's based solely upon your review of testimony in this case, correct?

A. And there was some inspection of a sister blind, but other than that I have no information other than what you've indicated, that is correct.

Q. The primary basis for your opinion on date of manufacture, I believe in your report you indicate it was deposition testimony by Stephen Eckhardt as to what type of screws Kirsch was using during the time period in question?

A. Yes.

Q. And then you said some independent investigation. What are you talking about with regard to that?

A. Only my review of the exemplar blind and the sister blind that was provided. Those were also done.

Q. You don't have any independent knowledge or specialized knowledge as to window covering identification that you utilized in reaching this opinion, correct?

A. No.

Q. It was more simply an interpretation of the evidence?

A. It was a conclusion I drew from the evidence.

Q. Did that conclusion require you to utilize any specialized engineering skills?

A. Well, certainly my evaluation included my background with product safety and product evaluation and product

design. So over the years I have gathered and garnered an expertise, if you will, in assessing these types of situations.

Q. But you would agree your opinion is based upon what your Kirsch representative Stephen Eckhardt said, they used screws that were present in the bracket you identified, anybody can draw that conclusion from that testimony, correct?

A. But they wouldn't have -- if they did, they wouldn't have knowledge of maybe how manufacturers put together or make design changes and how they put those into the stream of commerce. And this particular design change, there's an evaluation that went into that as well.

Q. Did you engage in a particular analysis as to the history of Kirsch's design of products and what they did and what they changed aside and apart from the deposition testimony you reviewed?

A. My background and understanding was consistent with Mr. Eckhardt's testimony, and the conclusion about the blind was generated from that.

Q. The second part of your opinion is based on your conclusion of when the blind was manufactured relates to what the industry knew at that time, correct?

A. Yes.

Q. And it's your opinion that the industry was not aware

of an inner cord hazard until approximately 1990, I believe you said, correct?

A. Essentially that's correct.

Q. How was it only essentially correct?

A. Well, they are your words. My opinion focused in this particular opinion on what the manufacturer would have reasonably -- what was reasonably foreseeable to a manufacturer at the time these blinds were made, which includes the state of the knowledge back in the late eighties.

Q. And you derived the state of the knowledge from the late eighties based upon your review of various documents produced to you in this case, correct?

A. That is correct.

Q. And that included documents from the WCMA and WCSC, correct?

A. Yes.

Q. And documents from the CPSC, correct?

A. Yes.

Q. And your conclusion is primarily based upon the fact that those documents make no mention of an inner cord incident during the time period in question, correct?

A. That is a large part of it.

Q. The other part of your -- I believe you said in direct examination the basis of your opinion was your examination of

an exemplar blind; is that correct?
A. Yes.
Q. And it was your physical manipulation of the blind, you said it was hard to make an inner cord loop; is that correct?
A. Under some circumstances.
Q. But primarily the second part of your basis it's not foreseeable was the difficulty with -- or the physical manipulation required to form an inner cord loop; is that correct?
A. It's more than that as well, but that was part of it.
Q. And you -- I'm sorry, go ahead.
A. It also was the fact that the inner cord is not intended to be used. It's only the pull cord is the operational portion of that system. The inner cord is between the slats. It's not intended to be manipulated at all and it's essentially misuse of the product.
Q. You would agree that the fact that the inner cord isn't designed to be used and/or is a misuse of the product in and of itself doesn't make the hazard unforeseeable, ultimately you would agree the industry recognized that the people were indeed misusing the product and attempted to remedy it, correct?
MR. KRASOVEC: Object to the form of the question.
THE COURT: Restate your question.
Q. Dr. Knox, you would agree that the mere fact that

the -- you're looking at the blind, and the fact that the cord was not designed to be used in and of itself doesn't make -- doesn't make the creation of the hazard unforeseeable. Indeed, the industry -- in fact, people were misusing the product, and the industry recognized the hazard did exist, and attempted to subsequently remedy this hazard in 2000, would you agree with that?

A. You've got two different questions in your statement there. Which one would you like me to answer?

Q. I'll start with the first one.

A. Okay. The fact is that whether something is foreseeable is not the same as something whether it's reasonably foreseeable. Okay. So we have to keep in mind that something that's foreseeable is essentially anything is possible. So I disagree with you that it's foreseeable, because then the designer of the product would have to consider everything that is physically possible with that product.

Secondarily, I would indicate to you that the -- for your second question that the industry became aware of this through notification of the CPSC, and in an effort to more fully understand the issues that were being brought to their attention. So it was a collection of effort that was done to identify this issue.

Q. You agree your opinion, though, is based on what you

perceive the industry to have known at the time the blind was manufactured, correct?

A. I don't think that properly states the entirety of what I'm talking about. My background with standards development and the ongoing activity of building consensus for standards development and involving the industry in that process is part of my background and basis for the opinion in this matter.

Q. In reaching this opinion did you interview anybody from the industry and talk about what tests they undertook specifically during the time period in question to identify hazards?

A. I have not.

Q. So you have no idea the tests you participated in in any way replicate what the industry did to draw conclusion as to what they knew at the time?

A. If I understand your question, I don't know that my testing was a replica of exactly what they did.

Q. The only objective evidence you have as to what the industry knew or didn't know is the documents you reviewed, correct?

A. Certainly the documents produced in this case were the evidence that I used with my background to come to this conclusion.

Q. And it was based upon the fact that those documents did

not reference an inner cord hazard during the time period in question?

A. Yes, that was part of it.

Q. Dr. Knox, your second opinion: The alleged Kirsch mini blind involved in Miss Catara Robinson's accident was not defective in design nor unreasonably dangerous when used as the manufacturer intended. Does that accurately state your opinion?

A. Yes.

Q. I want to make sure I'm understanding this correctly because I think there's been some confusion based upon some of the issues in this case. What you reference as the manufacturer intended, I believe based on your testimony earlier you're saying it's not unreasonably dangerous when the individual used the pull cord to raise and lower the blind, correct?

A. That's one of the intended uses.

Q. Or use the wand to open the blind, correct?

A. To tilt the slats of the blind, that's correct.

Q. Was your reference to intended use, are you addressing misuse in that opinion?

A. Yes.

Q. How so?

A. Reasonably foreseeable misuse. That the product is not intended to have the inner cord operated or touched. In

normal operation it is between the slats and would have to be physically manipulated into a loop. You'd have to actually create an action to go in, get it, and pull it out.

Q. You would agree that a misuse by definition does not constitute an intended use? If it was an intended use, it wouldn't be a misuse, correct?

A. I think that's correct. It's a misuse. It's a definite misuse of this product.

Q. Your opinion is based upon what was intended, correct?

A. Reasonably foreseeable use as an intended use.

Q. Dr. Knox, I'm going to visit with you a little bit about your accident reconstruction and your surrogate study. You've clarified a lot of issues but there are some I'd like to address. First of all, you said that the surrogate you used was in the two-year range. What do you mean by that?

A. He was two years old.

Q. Do you know how many months he was, 24, 28, 32?

A. He was two years and zero months.

Q. In conducting your surrogate study and accident reconstruction, did you make a determination as to what the measurement would be to -- strike that. Let me back up. I believe it was your opinion you believed that the loop may have been present prior to this incident, correct?

A. Well, I'll stand on the prior testimony, but the terms of the presence of that loop, yes, that's what's left after

my entire analysis.

Q. Did you make a determination as to what the measurement would be from the ground to the loop as it existed after the incident?

A. I believe I do have that.

Q. Okay. Do you know what that was?

A. It was approximately 30 inches.

Q. Could Miss Robinson reach that from the ground?

A. Yes.

Q. Without standing on anything?

A. Yes.

Q. In conducting your surrogate study, you did not have the surrogate stand on any sort of two-inch toy or exemplary device to see if he could reach the blinds, correct?

A. That's correct.

Q. And you didn't have the surrogate stand on a 15-inch bin toy or any type of exemplar step to determine what would happen with him reaching the blinds at that point, correct?

A. That's correct.

Q. You haven't examined the bin in question?

A. I'm sorry?

Q. You have not examined the bin in question?

A. No.

Q. And your opinion that it's unlikely Miss Robinson used the bin to reach the blinds is based upon your questions

and/or calling into -- calling into question the stability of the bin and the arrangement of toys thereby, correct?

A. Yes, it's a number of factors, those are two of them.

Q. You would agree there are a number of factors that play into whether or not a child could indeed stand on the bin or toy arrangement to reach the blinds, correct?

A. Yes.

Q. And by your own admission in your report I believe you say earlier on page 13 that the ability of a child to be supported and stand on this particular arrangement cannot be determined without more information, correct?

A. That's a direct statement from the report. It was clarified earlier in my testimony.

Q. I want to talk about the second half of your third opinion. You say that ESI cannot rule out that the inner cord loop was present in some form prior to the accident.

A. That's correct.

Q. That's correct. Can you rule out that it was indeed not present?

A. I don't think I understand your question.

Q. I'm just questioning what degree of certainty, the fact that you can't rule out the inner cord loop was present doesn't necessarily speak to the fact that it actually was. Can you rule out the opposite?

A. I believe I have.

Q. You think you can?
A. Because that's what's left. In my entire analysis, with the physical analysis, with the surrogate reach analysis, the remaining possibility that it is present before the accident in some form is what to my conclusion in certain terms of engineering certainty was present prior to.
Q. Are you familiar with the 1985 safety standard and warning that was offered by the CPSC with regard to mini blinds?
A. I have seen it.
Q. You're familiar with the recommendations?
A. I don't have it committed to memory. I've seen it.
Q. Would you agree that the CPSC recommended that parents avoid cord hazard by using things such as cord cleats and short cords?
A. I believe that is consistent with the message.
Q. Are you familiar with what a cord cleat is?
A. Yes.
Q. Can you describe that for me?
A. It's a device attached to the wall where the object is next to the window blind, and regardless of the particular elevation, you can wrap the cords of the blind around that object. It's a metal device typically, could be plastic, that would restrain the cord.
Q. And you would agree if the pull cord were restrained

with a cord cleat, that would prevent me from pulling out the inner cord and forming a loop, correct?

A. Under the circumstances you described, yes.

Q. And by short cords, you would agree that the CPSC is recommending the parent keep the pull cords as short as possible; is that correct?

A. There's -- yes, generally speaking, that's correct. But there's obviously some circumstances that would have to be different for different window coverings.

Q. Obviously. And you would agree that the formation of an inner cord loop when the inner cord is pulled out to raise it, when an inner cord loop is formed, it raises up the pull cord, correct?

A. Yes.

Q. So then you would also agree that the potential size of an inner cord loop is limited by the length of the pull cord?

A. And it depends on what's happening with the pull cord itself.

Q. But it is limited -- it can only be as long as the pull cord, correct?

A. Well, depends what you mean by loop. Generally speaking the shorter the pull cord, though, it would limit the amount of loop that could be possible, yes.

Q. And these blinds are manufactured after, I believe you said somewhere between 1985 and 1989, correct?

A. Yes.
Q. And if these blinds were in compliance with these safety recommendations by the CPSC in 1985 by having short cords or court cleats, that could prevent the formation of the inner cord loop that you opine was present prior to Miss Robinson's incident; is that correct?
A. I'm not sure I understand what you're asking. Are you asking what -- could you clarify, please?
Q. My point is if cord cleats were present and/or if the cords were short, that would have prevented the formation of the inner cord loops regardless of whether it was present before the incident or at the time of the incident, would you agree with that?
A. It depends on the circumstances, but it will under some circumstances limit that.
Q. Your fourth conclusion, you referenced the fact that you believe Miss Catara Robinson's accident would not have occurred if she was properly supervised at the time of the accident. Would you agree with that?
A. That's properly stated, yes.
Q. Before offering this opinion, have you done any studies into the amount of time it takes for a child to strangle in a window blind cord?
A. I have not done any independent studies on that.
Q. So you don't know the amount of time it takes, how long

it takes for a child to get caught?
A. It would be different for different people. It would be different for the circumstances under which the asphyxiation would occur and the manner in which the cord was around the neck. It would be a varying range of times.
Q. You would agree that the amount of time it takes for a child to become entangled in a window blind cord necessarily relates to whether parental supervision could or could not prevent an accident from happening?
A. Time is certainly a factor in the injury.
Q. You don't have any independent training on proper supervision, parental supervision techniques, do you?
A. No.
Q. And your opinion is not that the accident -- simply that the accident could have been prevented had Catara's parents had been in the room, your opinion goes so far as to criticize how they went about supervising the child?
A. I disagree with your contention.
Q. So your opinion is limited to the fact that had they been in the room, this incident wouldn't have occurred?
A. Had they -- let me clarify. Had they been in the room with sight and sound supervision then this accident would have been prevented.
Q. Your report -- your opinion specifically says properly supervised, not supervised. Would you agree with that?

A. Yes.
Q. So you were rendering an opinion on what the proper supervision techniques were for Miss Robinson's parents at the time of the incident?
A. The word "properly supervised" comes directly out of the literature, which is commonly available to the parents at the time, which indicates proper supervision would be constant sight and sound interaction. So it's building on itself, if you will.
Q. That's not literature you authored; is that correct?
A. That's correct.
Q. That's literature somebody else authored?
A. Yes.
Q. You don't have any independent training and the knowhow those people went about reaching their opinions as to what proper supervision techniques are, correct?
A. And I think I just indicated that earlier.
Q. And you would agree that people who author those books have an expertise in proper parental supervision that you do not?
A. I have not reviewed their expertise, but clearly they are publishing on the subject of supervision.
Q. You're relying upon them, not upon any independent training you've received?
A. That's correct.

MR. KRUSE: Nothing further.

THE COURT: Redirect?

MR. KRASOVEC: Brief redirect.

REDIRECT EXAMINATION

BY MR. KRASOVEC:

Q. Dr. Knox, you were asked about a couple of prior matters in which you worked on that involved window covering incidents. In either of those matters did you perform accident reconstruction?

A. The first case, yes. The other -- I'm sorry, the first matter with the WCMA, the answer is no. The other matter was effectively a form of accident reconstruction, yes.

Q. And was that accident reconstruction done similar to the methods you deployed in this case?

A. Yes.

Q. And then last you were asked a question about the second conclusion in your report which states the alleged Kirsch mini blind involved in Miss Catara Robinson's accident was not defective in design nor unreasonably dangerous when used as the manufacturer intended. Just so I'm clear, the pulling the inner cord out to form a loop is not an intended function of a mini blind, correct?

MR. KRUSE: Objection, leading.

THE COURT: Sustained.

Q. Is pulling an inner cord of a window blind the intended

use of the blind?
A. No, sir, it is not.
Q. Is there any circumstances under which one would pull the inner cord of a mini blind to form a loop in order to operate the blind?
A. No.
Q. So with respect to the inner cord -- strike that. Are you aware of any horizontal mini blind where any -- where the manufacturer of that blind instructed the user to extract the inner cord for any purpose?
A. No, I'm not.
MR. KRASOVEC: Your Honor, that's all I have.
THE COURT: Thank you.
MR. KRUSE: Nothing further, Your Honor.
THE COURT: Thank you, sir. You may step down.
THE WITNESS: Thank you.
THE COURT: I will take these under submission and give an opinion, okay. Thank you all.
MR. CORRIGAN: Thank you, Your Honor.
MR. KRASOVEC: Thank you.
(Court in recess at 3:50 p.m.)

C E R T I F I C A T E

I, Susan R. Moran, Registered Merit Reporter, in and for the United States District Court for the Eastern District of Missouri, do hereby certify that I was present at and reported in machine shorthand the proceedings in the above-mentioned court; and that the foregoing transcript is a true, correct, and complete transcript of my stenographic notes.

I further certify that I am not attorney for, nor employed by, nor related to any of the parties or attorneys in this action, nor financially interested in the action.

I further certify that this transcript contains pages 1 - 127 and that this reporter takes no responsibility for missing or damaged pages of this transcript when same transcript is copied by any party other than this reporter.

IN WITNESS WHEREOF, I have hereunto set my hand at St. Louis, Missouri, this 27th day of July, 2012.

_____

/s/ Susan R. Moran
Registered Merit Reporter